The Milroy Lectures

ON

THE VALUE OF ISOLATION AND ITS DIFFICULTIES.

Delivered before the Royal College of Physicians of London

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LECTURE I.

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MR. PRESIDENT AND GENTLEMEN,—Permit me to express my sense of the high honour conferred on me in having been appointed the Milroy Lecturer for this year. The fact that I have been requested to undertake the duties of an office which has been so ably filled by distinguished predecessors has impressed me with a feeling of serious responsibility. My natural desire to respond adequately to so honourable an invitation, which I felt to be more than I deserved, has led me to consider most carefully the choice of a subject worthy of such an occasion. To select from among the problems bearing upon public health or sanitary administration a subject on which I could speak with the authority that comes of considerable experience, and at the same time to choose one that would be of interest to the distinguished representatives of English medicine here before me, was a task of no small difficulty. After conference with my friend Dr. Thorne Thorne, the medical officer of the Local Government Board, and others I finally decided that the subject, "The Value of Isolation and its Difficulties," appertaining as it does to the every-day work of the sanitarian in this and other countries, could not fail to be of some special interest to you, whose opinion on matters affecting public health administration must always be of the first importance. Dr. Gavin Milroy, the founder of these lectures, laid stress upon the subject of contagious or infectious diseases regarded from the point of view of state medicine and public hygiene. In his pamphlet entitled "Suggestions for Consideration by the Council of the Royal College of Physicians, &c.," he clearly indicated the great importance which must necessarily attach to the work of competent and conscientious observers, whose duty it is to study and examine the natural history and varying behaviour of diseases which may come within the scope of preventive medicine. He recognised that the cultivation of exact knowledge in etiology and epidemiology is part of the ground-work on which practical measures for sanitary administration should be based. After continuous service as an officer of health for town and country districts for over twenty years I have become more and more impressed with the conviction that sanitary progress is largely dependent on the work of pathologists, clinical observers, and those who have made etiology their special study. Indeed, it is in the public interest that as officials we should insist at the present day on the value and importance of the physician's work in connexion with sanitary or public health administration. The labours of engineers and others, in improving water-supply, drainage, and house accommodation, need not be underestimated; they have done much to improve the standard health conditions of modern life. But the place which such works occupy in a properly organised system of sanitary administration is perhaps better understood now than formerly. If we desire to make real and substantial progress in public health administration it is plain that we must resist a tendency to regard it mainly (if not exhaustively) from the point of view of physical science—i.e., the promotion and carrying out of structural work. We may readily concede the important share that from the time of ancient Rome to the present day great undertakings for water-supply and drainage have had in modifying the course of, and even preventing, epidemic disease. Still, we are bound to claim for medicine the superior position as the controlling influence in all matters relating to health administration, for has not experience shown over and over again that her researches and teachings cannot be ignored even for a time without disaster? I cannot, therefore, greatly err in availing myself of this opportunity which you have so graciously afforded me in choosing as a subject for these lectures a department of the health officer's work in which some progress has been made since 1872, and in which I do not hesitate to say that far more would have been accomplished if only medical knowledge in matters relating to the public health had been duly appreciated and acted upon.

Sir John Simon, in the volume which he published a few years ago, which might well have been called "The Sceptre of Hygeia," reviewed in the broad spirit of a statesman our English sanitary institutions in their course of development and in some of their political and social relations. After referring to the subject of isolation in "earliest times" and alluding to the Biblical commands respecting some of the purposes of isolation set forth in Deuteronomy and Leviticus and plainly expressed in passages of the Hebrew Pentateuch he traces mediæval medicine to the Tudor period, in which he perceives the dawn of science in its relation to the public health. In language picturesque and full of meaning he describes how in apparent connexion with the crusades (1100–1300) came the greater diffusion of leprosy in Europe, and how "with the now greatly extended presence of the disease there came a panic. Each leper was regarded not only with physical aversion as capable of causing to others a loathsome disease, but equally with superstitious horror as bearing the brand of a curse from heaven; and this double feeling rapidly led to a system not cruelly meant, but often most cruelly applied, under which lepers were set under strict social ban and were forced to endure their miserable remains of life apart from communication with their fellow men. History," he adds, "has few more pathetic passages than its record of religious services in which lepers were bidden to inhuman exile." Those were emphatically the times of the great pestilences which are historically famous as the epidemics of the Middle Ages, and the terror of which gradually led, from the middle of the fourteenth century onward, to the establishment of such quasi-military defences and precautions as are known by the name of quarantine. When the Black Death had reached south-eastern Europe at the end of 1346 and rapidly spread in parts of Italy, the city of Milan was said to have kept out the disease a long time by the exercise of extreme strictness as to its communications with other places. The example of Milan seems to have been followed elsewhere, at first only against the same terror, but afterwards more generally against the frequent danger of ordinary Levantine plague. Venice, with its large eastern commerce, was peculiarly exposed to the latter risk, and took the lead in enforcing regulations which at the time were of high repute in Europe.

The spirit which prompted and still prompts these quasi-military precautions, which have lasted through so many centuries even to the present day, was and is in reality, though not intentionally, exceedingly cruel. We need not search the pages of history to demonstrate this. The story of the cholera in Spain only a few years ago shows plainly enough how, under the influence of panic, the old spirit may at any time be revived and be as cruel in its manifestations as it ever was in the Middle Ages. Nothing but the steady education of public authorities by responsible advisers or officers, in medical as well as in other matters, will ever dispel it. It prevailed in England even in the time of the famous Dr. Richard Mead, physician to St. Thomas's Hospital. Indeed, in his celebrated "Discourse concerning Pestilential Contagion and the Methods to be used to Prevent it" Mead starts with the assumption that "quarantine" as carried on then and even now in parts of Europe was essential. How different a spirit is now in the ascendant is evidenced in a number of ways. Here let me distinctly state that by "quarantine" is meant the unscientific and consequently useless restrictions generally denoted by that name, restrictions which are even to the present day insisted upon by the otherwise enlightened Governments of some European countries. I would emphasise and dwell upon this point because our system of medical inspection combined with "coast isolation," if I may so term it, in distinction to "quarantine," is at the present day insisted upon as a very essential part of our defences against invasion by certain epidemic diseases. Within the last few weeks the Local Government Board has issued a

volume full of interesting details and information on the subject of our defences against cholera. The necessity for isolation hospitals along our coast line, at the port sanitary districts in communication with foreign countries, for the reception of persons actually suffering from cholera and other dangerous infectious diseases brought to these shores is not only admitted but insisted upon. This recently-published volume is one of the most important that has been issued by our Government medical officers, for it relates to the progress which has already been accomplished in this, which is essentially our first line of defence, and to the difficulties of our partly national but chiefly local system of sanitary administration which stand in the way of its completion.

[The following part of the lecture was illustrated by maps and lantern slides from Dr. Armstrong's contribution on marine hygiene to Stevenson and Murphy's treatise.]

The medical officer of the Local Government Board (Dr. Thorne Thorne, C.B., F.R.S.), in the introduction which he gives to the reports and papers on the "Port and Riparian Sanitary Survey of England and Wales, 1893 94," tells us that "the development of our general port sanitary administration was not until recent years so advanced as that of our inland districts; and when the port survey was commenced it was found that in only *one-third out of a total of sixty* port sanitary districts could the general administration be regarded as satisfactory and efficient. Efficiency for the purposes under consideration means the appointment by the port authority of a competent and adequately remunerated officer of health and of a properly instructed sanitary inspector; the possession by that authority of a hospital for infectious disease and of means of disinfection; together with the adoption of the Infectious Disease Notification Act, 1889, and in some districts of special regulations under Sections 1, 2, and 5 of the Public Health Act, 1875. Above all, efficiency involves such administrative arrangements as shall ensure the regular and systematic inspection and supervision of shipping for general sanitary purposes as well as for the control of disease on board. In the *second third* of the port sanitary districts the administration was found in these respects to be lax and inefficient. Between these two extremes lie the *remaining third* of the port districts."

Dr. Barry in his report, which comprises the sum of investigations of the Medical Survey Staff of the Local Government Board, describes the port sanitary districts in the following manner:—"Certain of the Customs ports, or parts of such ports, have been from time to time constituted under special orders of the Local Government Board into port sanitary districts. This has been especially done where more than one of the existing sanitary authorities abutted upon the waters of an important harbour or port. Under these orders the great majority of the ports of England and Wales, having large foreign trade, have been included in one or other of the port sanitary districts. The duties and responsibilities of a port or riparian sanitary authority under the Public Health Act, 1875, and the Public Health (Ships) Act, 1885, as regards vessels and persons on shipboard, are practically identical with those entrusted to a local authority on shore with respect to hospitals and their inmates. These duties comprise:—(*a*) Measures for securing the wholesomeness of vessels and for preserving the health of persons on shipboard; (*b*) measures for preventing the introduction and spread of infectious diseases." The measures for preventing the introduction and spread of infectious diseases consist in the main of prompt notification of the existence of such disease, isolation of the actually infected persons in hospital, the disinfection of infected things, and the prohibition of the exposure of infected persons or of infected articles.

As regards hospital provision for infectious diseases Dr. Barry reports that "at the date of inspection forty-one port sanitary authorities had made provision, either by themselves or by arrangement with neighbouring authorities, for the isolation of shipboard infectious disease other than cholera. In nineteen districts there was at the date of inspection no provision available for the isolation of general infectious disease. Floating hospitals had been provided at the following ports, viz.: River Tyne, Harwich, Colchester, Cowes (unfurnished), Yarmouth and Totnes (unfurnished), Plymouth, Barnstaple, Milford (unfurnished), and Beaumaris. In thirty-one districts more or less efficient provision had been made on shore, from fully equipped hospitals at London and Weymouth 'to converted railway carriages' at New Shoreham. The nineteen port sanitary districts which at the date of inspection possessed no available means for the isolation of general infectious diseases were as follows:—River Blyth, Grimsby, Wells, Malden, Rochester, Faversham, Sandwich, Deal, Littlehamptom, Exeter, Teignmouth, Kingsbridge and Salcombe, Penzance, Hayle, Chepstow, Cardigan, Fleetwood, Lancaster, and Workington."

As regards the adoption of the Infectious Diseases Notification Act, 1889, there were no less than thirteen port sanitary districts without the provisions. Strange to say, among these was the port district of Bristol. The list included, also, Boston, Beaumaris, Cardigan, Carnarvon, Ipswich, Kingsbridge and Salcombe, Lancaster, Littlehampton, Portsmouth, Scilly Islands, Wisbech, and Workington.

Not only does this volume of "Reports and Papers" contain a vast amount of important information from the point of view of practical administration, but also it incidentally affords striking proof of the value of the survey itself, carried out as it was when this country was threatened with cholera invasion. The actual additions to our permanent defences against importation of infectious diseases generally provided at the expense of the various local sanitary district authorities, either whilst the survey was in progress or since its completion, show that up to the end of 1895 they form a considerable part of the whole of our system (some material or substantial improvement having been made in forty-four out of sixty cases). I would specially emphasise the statement that as regards "coast isolation" and the co-related measures of administration this provision is essentially necessary for other purposes besides cholera.

For the purpose of cholera (*vide* Dr. Thorne Thorne's introduction) "some means of hospital isolation was from the first found in forty-four out of the sixty ports, and in nine others it was provided after the inspector's visit. Ambulance boats were available in a number of the more important ports; provision existed in the great majority of the ports for the destruction by burning or the disinfection of clothing, &c.; and with but few exceptions some arrangements have been made as to the emptying of water-tanks on board ship, the provision of a proper water-supply, and the pumping of bilges. The arrangements for the medical inspection of vessels and of persons under the Board's orders were found to be satisfactory in all but five port districts; and it is only right to say that in certain of them, notably the ports of London, River Tyne, Hull and Goole, Southampton, Weymouth, Plymouth, Bristol, Cardiff, Barry and Cadoxton, Swansea, and Liverpool, the arrangements were not only highly satisfactory, but they were carried out with a devotion to duty on the part of many of the medical officers of health such as must be regarded as having largely contributed to the marked success with which imported cholera was controlled at nearly all English ports during 1892 and 1893."

From a study of the writings of my distinguished and learned colleague, Dr. Payne, I gather that in the case of plague similar isolation precautions would be necessary, taking into account, of course, the essentially different ways by which the two diseases, cholera and Oriental plague, are spread. Dr. Payne, in editing the account of the Great Plague of London in the year 1665 by William Boghurst, gives an impartial summing up of the contagionist and localist explanations of the plague. In favour of Hirsch's view he says there are facts that the disease came originally from the east and that a general succession of epidemics from east to west was often observed, and that its recession in the seventeenth and eighteenth centuries followed inversely the same law. In England, for instance, epidemics were often preceded by outbreaks in Holland. "In England, too, the incidence of the disease in seaport towns was far more severe than in those inland, and it is extraordinary how much more frequently and severely the east of England, which was in communication with the Continent, was affected than the west." He adds: "The infection of Yarmouth before London in the autumn of 1664 is a striking fact," so that it would appear that, as in the case of cholera so in that of Oriental plague and yellow fever, a coast isolation system is required in this country. The last-named disease, yellow fever, was brought to our shores at Swansea in September, 1865. It was in connexion with this outbreak and also in relation to the concurrent prevalence of cerebro-spinal meningitis in epidemic form in places about the Lower Vistula that, as it will be remembered, formal official declaration was made on the subject of contagion in its public health aspects and on quarantine, *vide* "Public Health Reports," John

Simon, edited by Edward Seaton. So also it may be in the case of typhus fever, with regard to which I learned some interesting facts at New York in 1887. Within the last few weeks I have received a letter from Dr. J. S. Billings, expressing strong opinions upon the value of isolation in the case of this disease as exemplified by the experiences of New York city. In Australia and in the colonies also I have gathered from the verbal communications of those who know the facts that in the case of small-pox coast isolation has certainly been of great value. Again, in our own country small-pox and fevers need to be isolated when brought into our ports, whether by "coast-wise" or "foreign" traffic. So that, briefly stated, that part of quarantine which consists in intelligent isolation, kindly and thoughtfully carried out, is and must be as a matter of course part of a well-organised sanitary system in any country.

The celebrated "Discourse" by Dr. Mead, to which I referred at the outset of this lecture, comprises two "Cautions." The first relates to "the prevention of disease being brought into our island"—that is to say, to quarantine. "Near to our several ports there should be *lazzarettos* built in convenient places on little islands, if it can so be, for the reception of both men and goods which arrive from places suspected of infection." This is a subject that I need not dwell upon further, seeing that quarantine in this sense has already been abandoned for England. The second "Caution" relates to "the putting a stop to the disease spreading amongst us" when imported. This it is which is more immediately interesting to us at the present day when, by increased facilities of travel, it has become impossible to keep out those of the infectious diseases which have long periods of incubation even when cases are imported from distant parts of Europe and even other quarters of the globe. Furthermore, the teaching and work of at least two generations of men have been devoted strenuously and earnestly to the task of improving the conditions under which the people are housed and preventing the recurrence of nuisances injurious to health. So that it seems we can afford to let certain kinds of infectious disease be imported in our midst, if not with impunity, at any rate with infinitely less danger than in former days. It was in view of this possiblity of the reinfection of England from a "miscarriage in the public care" that Mead gave his second "Caution." Let anyone study this part of the "Discourse" by the light which experience affords in dealing with the problems of infectious diseases and their methods of prevention, and he cannot fail to perceive that the practice which we have been endeavouring with much labour and in spite of many difficulties to establish during the last quarter of the present century is identical with that which is so forcibly indicated by this wise physician of the early part of the eighteenth century. Indeed, the principles laid down by Dr. Mead in 1720 are precisely those which I believe our College would not only approve, but desire to see enforced as far as possible by those who hold the responsible positions of medical officers of health. Is not then he who by precept did so much to create a better understanding of the spirit in which the dangers of pestilence ought to be met rightly named first among the fathers of modern preventive medicine? But before proceeding to discuss these principles and their application in practice let me take the opportunity of saying a few words on the use of the term "isolation" (in modern preventive medicine), which is obviously open to criticism. Surely there would seem to be something like a contradiction in terms in calling what frequently amounts to a "massing together" of a number of persons isolation. As used in the language of medical science this word implies the treatment of persons apart from the general population. This is different from the meaning of the term when used as in ordinary language it denotes individual seclusion. The imprisonment of the unfortunate occupant or occupants of dwellings infected with the plague in the Stuart period might be spoken of as isolation in the latter sense. At that time, we are told, by the orders of the Lord Mayor of London, published in 1665, houses were kept "shut up with a *large red cross* and '*Lord have mercy upon us*' on the door, and watchmen to attend day and night to prevent anyone except physicians, surgeons, nurses, watchers, &c., going in or out, and this to continue a month after everyone was dead or recovered." Such treatment, cruel in the extreme, does, of course, constitute isolation in one sense, but it is equivalent to quarantine. Nothing of the kind is intended by the word as used here. Isolation carried to such an extent would of course never be thought of at the present day. It would, in fact, speaking generally, be regarded as a public danger. It is interesting, however, that under the influence of the panic which a disease such as small-pox is able to create in populations where vaccination is coming to be systematically disregarded something which looks like a revival of the obsolete system seems to be for a time possible. A most valuable report, printed by order of the sanitary committee of the borough of Leicester, and prepared by Dr. Joseph Priestley, who was medical officer of health for that town during the small-pox epidemic of 1892-3—a report to which I shall have occasion to refer later—shows that an amount of surveillance, domestic intrusion, and interference with personal liberty can be submitted to, even in an English town at the present day, which bears some resemblance to the system which was possible at the time of the plague. The extent to which things have gone in this direction will be gathered from the following "Small-pox Quarantine Regulations," which are quoted from the official report just referred to. They read as follows:—"1. The patient is removed at once to the borough fever hospital and the house (room or rooms), bedding, &c., disinfected. 2. The inmates of the infected house and others who may have come into contact with the small-pox case are placed under quarantine observations at their own homes, being visited by the inspector daily for sixteen days. 3. Any case of illness amongst these quarantine persons is at once notified to the medical officer, who visits the case and removes it to the hospital if necessary. 4. The inmates of infected houses and others who may have been in contact with the small-pox case, if thought necessary, are strongly urged not to go to work for the whole or part of their quarantine period of fourteen or sixteen days, and during that time have been made such allowances as the sub-committee have thought fit, the sum advanced in each case being no more than sufficient to cover rent and maintenance. In the event of persons, however, being quarantined at the hospital, as all their food is found for them, only such allowance has been made as to cover the rent; whilst in the event of clothes, bedding, &c., being destroyed fresh ones have been provided. 5. Persons while under quarantine observation are allowed to go about and are encouraged to take walks in the country, but are advised not to enter anybody's house, any public institution or meeting, under penalty of forfeiting their monetary allowance. 6. Quarantine wards within the same curtilage as small-pox wards may, in the opinion of some, be a source of danger to their inmates. This consideration, together with the largeness of the numbers to be dealt with, has led to the course of watching the suspected people at their own homes. 7. Those inmates of infected houses who are willing are sent up to the hospital to have a disinfectant bath, and to have their clothes stoved, whilst their houses are fumigated with sulphur meanwhile. Those persons who refuse to go up to the hospital have disinfectants given them and are asked to have a disinfectant bath at home." (It will be noted that the word quarantine, which has been officially discarded, has curiously come into use again at Leicester.)

The term "isolation," so far as I intend to use it in connexion with English precautions, applies to the taking of dangerously infective cases "out of" the centres of population, whether it be to ships, as on parts of our coast and on the River Thames as at Long Reach; or to islands, as is done at New York; or to convalescent homes, as at Winchmorehill; or to any favourably situated site in the open country near to a large manufacturing town, as at Bagthorpe, near Nottingham. Any one of these plans would be regarded as isolation in the sense of modern preventive medicine, for under such circumstances every hygienic advantage is secured to the sufferers as well as to the public, although so far as the sufferers are concerned company rather than solitude is frequently implied.

Mead introduces his second "Caution" by saying that there is "no evil in the world in which the great rule of *resisting the beginning* more properly takes place than in the present case" (he is dealing with the plague), "and yet it has unfortunately happened that the common steps formerly taken have had a direct tendency to hinder the putting this maxim in practice." For not only did the "shutting of all houses" prove ineffectual as a method of staying the development and spread of contagion, but the cruelty which this system involved or necessitated led to that which has always

been the bane of preventive medicine—namely, the concealment, often the organised concealment, of dangerously infective disease. The first great principle, therefore, to be insisted on is that all preventive work should be carried out in the spirit of tender care for the sick persons and their friends. To quote Mead's words: "*No manner of compassion* and care should be wanting to the *diseased*, to whom, being now in clean and airy habitations, there would be with due cautions no great danger of giving attendance; all expenses should be paid by the public, and no charges ought to be thought great which are counterbalanced by the saving a nation from the greatest of calamities." Can we be said to have entirely succeeded in giving effect to this advice even at the present day? Undoubtedly great improvement has taken place in our methods of dealing with the beginnings of outbreaks or epidemics. During the twenty years or more which have elapsed since the Public Health Act became law great advance has been made in the formation of public opinion, by which alone a sound basis of administrative action can be secured. Yet there are still manifestations that under the influence of panic a line of action may be adopted by local authorities which savours rather of persecution. I have already referred to what has happened in a midland town. In another city north of the Tweed legislative proposals were drafted some fourteen years ago to enable the representative of the local sanitary authorities to forcibly make examinations for purposes of diagnosis by the authority of a local Act of Parliament. This innovation not unnaturally provoked the opposition of those who make the preservation of personal liberties their special care. The appointment of a special committee of the House of Commons to watch sanitary and police Bills followed as a matter of course. We may with satisfaction refer to the firm stand taken by our Government Medical Department on the vital question of abolishing quarantine, with its apparently useless and frequently cruel restrictions. This ought to make us all the more careful not to sanction procedures by municipal corporations, which are obviously cruel, even when they are adopted on grounds which seem plausible enough to enthusiastic representatives of local self government.

The spirit in which preventive medical work is carried out is of fundamental importance, for if it be not well understood beforehand that proper consideration will be given to the unfortunate sufferers and their friends, how can it reasonably be expected that the initial difficulties attending the prevention of epidemics by means of isolation would ever be overcome? The precautionary measure of primary importance is the cultivation of the art of diagnosis. In Mead's time "ignorant old women were generally appointed searchers in parishes to enquire what diseases people die of." There was at that time, of course, no proper recognition of the functions of educated and skilled physicians by the State. By slow degrees those functions have come to be more and more recognised. But even at the present day we are far from having attained to what might be considered practicable from the administrative point of view. Skilled medical knowledge has been held too cheap in this as in other matters affecting the public interests, and as a result much preventable illness prevails. It would be easy to show, were it necessary to do so, how even the most intelligent of the general public fail to understand the value of diagnosis, whether as regards the acquirement of the art or the serious consequences that may follow a mistaken diagnosis. Within the last few weeks a note of warning has been sounded in a special article in the *Times* on infectious diseases in London. The absolute freedom from typhus fever of the vast population of the metropolis since the early part of 1887, when small outbreaks occurred in different parts of London, is a subject of congratulation, and bears silent testimony to the value of past labours of many active sanitary authorities and energetic officers. At the same time, under the authority of Mr. Shirley Murphy, President of the Epidemiological Society, Londoners—and, indeed, the inhabitants of all large towns—are warned of the danger that may possibly arise from this very absence of opportunity for studying and teaching distinguishing features of typhus fever. The want of opportunity in this case arises from the entire absence of the disease, but in the case of scarlet fever, measles, rötheln and influenza, chicken-pox and small-pox, we have examples of diseases which are domiciled amongst us and the diagnosis of which, regarded from the public point of view, may at any moment be important. Mead advises that the office of diagnostician should "be committed to understanding and intelligent men" whose business should be to give notice of the existence of what was believed to be dangerous infective disease to magistrates, who should immediately call in skilful physicians to report. Then, if upon their report it appeared that the pestilential distemper had broken out among the inhabitants, they should without delay "order all the families in which the sickness is to be removed, the sick to different places from the sound, but the houses of both should be three or four miles out of the town." The removal of the "sound"—i.e., persons not actually ill, but who have lived in the infected dwelling—may be regarded as a "counsel of perfection" impossible of attainment under any conditions, but the first recommendation proves to be of the greatest practical utility. So that immediately a diagnosis is arrived at and confirmed measures are to be taken for the public safety, and there are consequences very materially affecting the victims of the attack. It is plain then that accuracy of diagnosis is the first, and therefore the most valuable, of all measures of prevention and that it constitutes the basis of our whole system of defence. How much more we are coming to recognise its importance has been shown by the action of our College in obtaining through the Local Government Board in 1889 increased facilities for the clinical study of the endemic infectious diseases, and, further, by the opportunities given by our College, along with its sister College and other public bodies, for improved methods of diagnosis by means of bacteriology. On these important topics I shall have to speak later, but before concluding this part of my lecture I must refer to another great principle laid down by Mead at the conclusion of the sentences above quoted. In advocating the removal of the sick he says "that the houses of both [meaning the occupants of infected houses, sick and sound] should be three or four miles out of the town"—in other words, the isolation should be true isolation and not that which is often made to pass muster as hospital isolation even at the present day. As a considerable part of my next lecture must necessarily be devoted to certain aspects of the extremely interesting problem of preventing small-pox I must insist on the importance of Mead's postulate—viz., that infectious diseases should be isolated outside towns.

I have hitherto confined myself mainly to a discussion of principles which may be said to have been laid down for our guidance nearly two centuries ago. I would now ask you to let me give a brief review of the prevailing conditions under which infectious diseases were treated early in the "seventies," at which time several of us, as officers of health, became officially responsible for their prevention and treatment. At that time the prevailing diseases of the zymotic class, of which sanitary authorities had to take account, were the same as now, except that typhus fever, although still existing, was gradually diminishing in London, Liverpool, and other great towns. Relapsing fever, which assumed epidemic proportions in 1869, had disappeared in 1870. Consequently the diseases generally prevailing at that time which may be said to come within the scope of the sanitary authorities were the same as now—viz., typhus fever (already becoming rare), small-pox, scarlet fever, typhoid fever, and diphtheria. Measles and whooping-cough, though accounting for a considerable share of mortality, then as now had not been, and indeed have never been, brought within the scope of measures of sanitary precaution, except so far as these concern sickness of all kinds. The maintenance of these two diseases at the same level, in spite of sanitary improvements, shows that we do not yet understand the method of their prevention. Typhus fever was fast diminishing under the influence of sanitation. The better conditions of housing and living, which in former generations had proved so powerful in depriving plagues of their virulence, were gradually bringing about the same result in the case of this disease. Small-pox was apparently uninfluenced then, as it appears to be now, by such measures, and in spite of our systematic vaccination of infants it was about to inflict a death-rate on the population—namely, the unvaccinated, and the *adult* unrevaccinated population—which for the first time for many years formed an appreciable part of the annual returns. Scarlet fever still prevailed in a virulent form. Whether the attack-rate of the disease was, comparing it with that now prevailing, much greater, it is obviously impossible to determine with certainty, inasmuch as nowhere at that time was there any reliable system of notification or registration of diseases.

One point of importance, however, in connexion with

scarlet fever I would note in passing, and that is the change of the type of the disease which has been remarked by many clinical observers. My first experiences were gained under Sir George Buchanan, between 1866 and 1869, at the London Fever Hospital, and some few years later in the early "seventies" in Nottingham, where I had the supervision of scarlet fever. Cases of a very severe type were then not unfrequent but after some ten years, in the "eighties," the cases in the same town seemed to be of a much milder character. Certainly of late years the disease reported as scarlet fever in some parts of the country, especially in the county of Surrey, seems by comparison of death and notification returns to be, so far as I can observe, of a mild type. Some years ago (about 1882) argument against the necessity of a notification system was founded on the probable influence of improved sanitation (using the term in a wide sense) on the change which had been noticed in the character of the disease. It was urged at that time that the disease would tend to become trivial and harmless as our improvements in the condition and housing of the population progressed. To this point I shall have to return.

Typhoid fever was coming to be regarded by experts in the light of an entirely preventable disease owing chiefly to the forcible demonstration and teaching of the Medical Department of the Local Government Board, whose observations on this subject were summed up in Simon's essay on Filth Diseases. In the case of this disease, as in that of Asiatic cholera, isolation was considered then, as it is indeed now, to be of secondary importance. The chief protection against these diseases was believed to be the safeguarding of water-supplies, the prevention of food infection, &c. Diphtheria, for what reason we cannot explain, had somehow come to be accounted a "filth disease," like typhoid fever, and for several years the action taken by sanitary authorities was based on the assumption that this disease was also amenable to measures of cleanliness and that its very existence was an indication of some gross neglect on the part of the sanitary authorities or individuals. The evidence on which this assumption was founded escaped criticism, and, consequently, scientific inquiry and observation gave place to so-called "practical" measures. But however strong the evidence was with regard to both typhus fever and typhoid fever and their dependence upon what were then somewhat narrowly called "sanitary conditions," the evidence connecting diphtheria with such conditions has been of a very different class.

Hospitals for infectious diseases in England dated from nearly a century before 1872. At that time they had begun to supersede the old parish pest-house, which had till then formed the only special provision for the treatment of the infectious sick. The original design of these hospitals was to promote the recovery of the individual poor patient for whom accommodation was necessary; indeed, the name "house of recovery" was a frequent synonym for infectious diseases hospital at the period when the necessity of such an institution was first recognised. But it followed as a matter of course that the advantages to be obtained by the district possessing a hospital soon became evident, and from a very early period of their history infectious diseases hospitals have been advocated on the ground of their protecting the household, and consequently the public, against the spread of infection. About the time of which I am speaking there were, however, only two special infectious hospitals in the metropolis, and hardly any of the large towns had any means at all of isolating fevers or small-pox in separate buildings either within or without the precincts of the town. In London there were the old Small-pox and Vaccination Hospital (which had been removed to Highgate, where it now is) and the Fever Hospital (now used for private cases) in the Liverpool-road, Islington. Both these hospitals were supported by voluntary contributions and they were in no sense municipal institutions. The former received severe cases of small-pox and the latter severe cases of typhus, enteric, and scarlet fever. These diseases were also received into the airy and spacious wards of the general hospitals; but the great majority of the cases, especially those of a mild character, which were recognised to be important from the public health point of view, were treated at their homes. A large part of the practice of the dispensaries supported by voluntary contributions consisted in attending the infectious sick. Besides these, amongst the classes above those who obtained entirely gratuitous medical relief were vast numbers who, if infectious disease occurred in their households, were quite unable to isolate it sufficiently at home or to procure suitable means of isolation elsewhere. At that time infectious fevers amongst the poor and amongst the independent wage-earning classes may be said to have run their course almost unchecked, so far as effectual isolation is capable of controlling them. It was then that the Asylums Board was constituted under the Metropolitan Poor Act of 1867. Its purpose was to establish in the metropolis asylums for the sick, insane, and other classes of the poor. The name of the Act as well as the use of the term asylums indicates the intention of the Legislature at the time. It was in accordance with the view already expressed as to the *raison d'être* of a hospital. It was mainly to relieve the workhouses of the infectious sick and the insane that these asylums were required. As far as infectious diseases were concerned, there seems to have been no wider intention in their establishment than that of providing separate means of isolation for cases which could not be effectually isolated within the workhouse walls. The constitution of the Board was, as it is now, almost entirely representative of Poor-law authorities. Thus there was created for London a board which was destined to have important sanitary functions, but which was not representative of the sanitary authorities. The vestries, which in all other respects were the sanitary authorities, have at various times been criticised for not having taken independent action for the provision of hospitals, but few who have studied the question and have had practical experience of the difficulties of hospital provision and administration, or who are acquainted with the boundaries of London parishes and the intricacies arising therefrom, can doubt that this work at any rate was far better in the hands of a central authority, whether such central authority is representative of the Poor-law or of public health administration in a large sense.

To complete this brief review of the state of affairs about a quarter of a century ago I must now refer to what was found in the seventeen large towns of England of which the Registrar-General at that time gave weekly statistics. The population of these towns in the aggregate amounted to something like three millions, about equal to that of the metropolis as a whole. The great pandemic wave of small-pox which spread over England in 1871-72 had proved that our vaccination system alone, although absolutely protective of the young, was insufficient to protect the population as a whole against what might be termed epidemic diffusion of the disease, by which I would mean such an extension of the disease as would appreciably affect the general death-rate of these seventeen large towns for as long a period as a year, just as they were affected by the influenza epidemics of 1892-3, and by measles epidemics at various times. Not only the absence of systematic revaccination, but the absence even of facilities for carrying it out afforded by our then existing system of public health administration, made the want of isolation specially conspicuous (although it may be doubted whether revaccination, unless thoroughly systematic or in a sense compulsory, would have been entirely successful). The fact that the adult population suffered largely under the visitation (which as measured by its effect on the death-rates was severely felt, like the influenza epidemic of recent date), together with the horror of the disease and the interference with trade which it involved, greatly added to the panic and the loss of property that followed. The way in which the disease was seen to spread by the sometimes unavoidable and sometimes careless exposure of infected persons and things at public-houses, laundries, provision shops, &c., as well as in the workhouses and common lodging houses, forced attention to the question of isolation. This had hitherto been kept in the background by the habit of relying wholly on vaccination as the great preventive measure against small-pox. Under the influence of panic small-pox hospitals, so called, were erected, but this did not take place anywhere until the disease had got firm hold of the population, and consequently they were of little or no use in preventing epidemic diffusion. It was of such a kind of hospital that Dr. Thorne Thorne wrote as follows in a well-known Government report of 1882: "It is often not ready for occupation until the immediate cause of its erection has passed by; it provides accommodation of a very indifferent sort; it fails almost without exception to meet the permanent requirements of a district, even when in amount it turns out to be more than the district needs, and thus the object of the hospital as a part of the sanitary defences of a district is often obtained in a very imperfect manner and at a needlessly large cost."

been the bane of preventive medicine—namely, the concealment, often the organised concealment, of dangerously infective disease. The first great principle, therefore, to be insisted on is that all preventive work should be carried out in the spirit of tender care for the sick persons and their friends. To quote Mead's words: "*No manner of compassion* and care should be wanting to the *diseased*, to whom, being now in clean and airy habitations, there would be with due cautions no great danger of giving attendance; all expenses should be paid by the public, and no charges ought to be thought great which are counterbalanced by the saving a nation from the greatest of calamities." Can we be said to have entirely succeeded in giving effect to this advice even at the present day? Undoubtedly great improvement has taken place in our methods of dealing with the beginnings of outbreaks or epidemics. During the twenty years or more which have elapsed since the Public Health Act became law great advance has been made in the formation of public opinion, by which alone a sound basis of administrative action can be secured. Yet there are still manifestations that under the influence of panic a line of action may be adopted by local authorities which savours rather of persecution. I have already referred to what has happened in a midland town. In another city north of the Tweed legislative proposals were drafted some fourteen years ago to enable the representative of the local sanitary authorities to forcibly make examinations for purposes of diagnosis by the authority of a local Act of Parliament. This innovation not unnaturally provoked the opposition of those who make the preservation of personal liberties their special care. The appointment of a special committee of the House of Commons to watch sanitary and police Bills followed as a matter of course. We may with satisfaction refer to the firm stand taken by our Government Medical Department on the vital question of abolishing quarantine, with its apparently useless and frequently cruel restrictions. This ought to make us all the more careful not to sanction procedures by municipal corporations, which are obviously cruel, even when they are adopted on grounds which seem plausible enough to enthusiastic representatives of local self government.

The spirit in which preventive medical work is carried out is of fundamental importance, for if it be not well understood beforehand that proper consideration will be given to the unfortunate sufferers and their friends, how can it reasonably be expected that the initial difficulties attending the prevention of epidemics by means of isolation would ever be overcome? The precautionary measure of primary importance is the cultivation of the art of diagnosis. In Mead's time "ignorant old women were generally appointed searchers in parishes to enquire what diseases people die of." There was at that time, of course, no proper recognition of the functions of educated and skilled physicians by the State. By slow degrees those functions have come to be more and more recognised. But even at the present day we are far from having attained to what might be considered practicable from the administrative point of view. Skilled medical knowledge has been held too cheap in this as in other matters affecting the public interests, and as a result much preventable illness prevails. It would be easy to show, were it necessary to do so, how even the most intelligent of the general public fail to understand the value of diagnosis, whether as regards the acquirement of the art or the serious consequences that may follow a mistaken diagnosis. Within the last few weeks a note of warning has been sounded in a special article in the *Times* on infectious diseases in London. The absolute freedom from typhus fever of the vast population of the metropolis since the early part of 1887, when small outbreaks occurred in different parts of London, is a subject of congratulation, and bears silent testimony to the value of past labours of many active sanitary authorities and energetic officers. At the same time, under the authority of Mr. Shirley Murphy, President of the Epidemiological Society, Londoners—and, indeed, the inhabitants of all large towns—are warned of the danger that may possibly arise from this very absence of opportunity for studying and teaching distinguishing features of typhus fever. The want of opportunity in this case arises from the entire absence of the disease, but in the case of scarlet fever, measles, rötheln and influenza, chicken-pox and small-pox, we have examples of diseases which are domiciled amongst us and the diagnosis of which, regarded from the public point of view, may at any moment be important. Mead advises that the office of diagnostician should "be committed to understanding and intelligent men" whose business should be to give notice of the existence of what was believed to be dangerous infective disease to magistrates, who should immediately call in skilful physicians to report. Then, if upon their report it appeared that the pestilential distemper had broken out among the inhabitants, they should without delay "order all the families in which the sickness is to be removed, the sick to different places from the sound, but the houses of both should be three or four miles out of the town." The removal of the "sound"—i.e., persons not actually ill, but who have lived in the infected dwelling—may be regarded as a "counsel of perfection" impossible of attainment under any conditions, but the first recommendation proves to be of the greatest practical utility. So that immediately a diagnosis is arrived at and confirmed measures are to be taken for the public safety, and there are consequences very materially affecting the victims of the attack. It is plain then that accuracy of diagnosis is the first, and therefore the most valuable, of all measures of prevention and that it constitutes the basis of our whole system of defence. How much more we are coming to recognise its importance has been shown by the action of our College in obtaining through the Local Government Board in 1889 increased facilities for the clinical study of the endemic infectious diseases, and, further, by the opportunities given by our College, along with its sister College and other public bodies, for improved methods of diagnosis by means of bacteriology. On these important topics I shall have to speak later, but before concluding this part of my lecture I must refer to another great principle laid down by Mead at the conclusion of the sentences above quoted. In advocating the removal of the sick he says "that the houses of both [meaning the occupants of infected houses, sick and sound] should be three or four miles out of the town"—in other words, the isolation should be true isolation and not that which is often made to pass muster as hospital isolation even at the present day. As a considerable part of my next lecture must necessarily be devoted to certain aspects of the extremely interesting problem of preventing small-pox I must insist on the importance of Mead's postulate—viz, that infectious diseases should be isolated outside towns.

I have hitherto confined myself mainly to a discussion of principles which may be said to have been laid down for our guidance nearly two centuries ago. I would now ask you to let me give a brief review of the prevailing conditions under which infectious diseases were treated early in the "seventies," at which time several of us, as officers of health, became officially responsible for their prevention and treatment. At that time the prevailing diseases of the zymotic class, of which sanitary authorities had to take account, were the same as now, except that typhus fever, although still existing, was gradually diminishing in London, Liverpool, and other great towns. Relapsing fever, which assumed epidemic proportions in 1869, had disappeared in 1870. Consequently the diseases generally prevailing at that time which may be said to come within the scope of the sanitary authorities were the same as now—viz., typhus fever (already becoming rare), small-pox, scarlet fever, typhoid fever, and diphtheria. Measles and whooping-cough, though accounting for a considerable share of mortality, then as now had not been, and indeed have never been, brought within the scope of measures of sanitary precaution, except so far as these concern sickness of all kinds. The maintenance of these two diseases at the same level, in spite of sanitary improvements, shows that we do not yet understand the method of their prevention. Typhus fever was fast diminishing under the influence of sanitation. The better conditions of housing and living, which in former generations had proved so powerful in depriving plagues of their virulence, were gradually bringing about the same result in the case of this disease. Small-pox was apparently uninfluenced then, as it appears to be now, by such measures, and in spite of our systematic vaccination of infants it was about to inflict a death-rate on the population—namely, the unvaccinated, and the *adult* unrevaccinated population—which for the first time for many years formed an appreciable part of the annual returns. Scarlet fever still prevailed in a virulent form. Whether the attack-rate of the disease was, comparing it with that now prevailing, much greater, it is obviously impossible to determine with certainty, inasmuch as nowhere at that time was there any reliable system of notification or registration of diseases.

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scarlet fever I would note in passing, and that is the change of the type of the disease which has been remarked by many clinical observers. My first experiences were gained under Sir George Buchanan, between 1866 and 1869, at the London Fever Hospital, and some few years later in the early "seventies" in Nottingham, where I had the supervision of scarlet fever. Cases of a very severe type were then not unfrequent but after some ten years, in the "eighties," the cases in the same town seemed to be of a much milder character. Certainly of late years the disease reported as scarlet fever in some parts of the country, especially in the county of Surrey, seems by comparison of death and notification returns to be, so far as I can observe, of a mild type. Some years ago (about 1882) argument against the necessity of a notification system was founded on the probable influence of improved sanitation (using the term in a wide sense) on the change which had been noticed in the character of the disease. It was urged at that time that the disease would tend to become trivial and harmless as our improvements in the condition and housing of the population progressed. To this point I shall have to return.

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To complete this brief review of the state of affairs about a quarter of a century ago I must now refer to what was found in the seventeen large towns of England of which the Registrar-General at that time gave weekly statistics. The population of these towns in the aggregate amounted to something like three millions, about equal to that of the metropolis as a whole. The great pandemic wave of small-pox which spread over England in 1871-72 had proved that our vaccination system alone, although absolutely protective of the young, was insufficient to protect the population as a whole against what might be termed epidemic diffusion of the disease, by which I would mean such an extension of the disease as would appreciably affect the general death-rate of these seventeen large towns for as long a period as a year, just as they were affected by the influenza epidemics of 1892-3, and by measles epidemics at various times. Not only the absence of systematic revaccination, but the absence even of facilities for carrying it out afforded by our then existing system of public health administration, made the want of isolation specially conspicuous (although it may be doubted whether revaccination, unless thoroughly systematic or in a sense compulsory, would have been entirely successful). The fact that the adult population suffered largely under the visitation (which as measured by its effect on the death-rates was severely felt, like the influenza epidemic of recent date), together with the horror of the disease and the interference with trade which it involved, greatly added to the panic and the loss of property that followed. The way in which the disease was seen to spread by the sometimes unavoidable and sometimes careless exposure of infected persons and things at public-houses, laundries, provision shops, &c., as well as in the workhouses and common lodging houses, forced attention to the question of isolation. This had hitherto been kept in the background by the habit of relying wholly on vaccination as the great preventive measure against small-pox. Under the influence of panic small-pox hospitals, so called, were erected, but this did not take place anywhere until the disease had got firm hold of the population, and consequently they were of little or no use in preventing epidemic diffusion. It was of such a kind of hospital that Dr. Thorne Thorne wrote as follows in a well-known Government report of 1882: "It is often not ready for occupation until the immediate cause of its erection has passed by; it provides accommodation of a very indifferent sort; it fails almost without exception to meet the permanent requirements of a district, even when in amount it turns out to be more than the district needs, and thus the object of the hospital as a part of the sanitary defences of a district is often obtained in a very imperfect manner and at a needlessly large cost."

It often happened that with small-pox—that most infectious or contagious of diseases—such accommodation had to be provided on some open space well within the precincts of the town, and which could not be regarded, therefore, as *true isolation*. Mead's view, so far as it relates to the sufferers being removed a distance of three or four miles out of the town, was, perhaps, more practicable when the whole population of the country was much less and when towns were very much smaller in size. The policy, indeed, of dealing with so highly contagious a disease as small-pox by the segregation of large numbers of cases within the precincts of any large town had from the beginning been regarded with distrust and suspicion by eminent and experienced Fellows of this College, some of whom gave their opinions in evidence at a well-known trial in the Law Courts about five-and-twenty years ago. Later, Dr. Bridges, the Local Government Board adviser on medical Poor-law matters of the metropolis, and others whose experience was of the highest value, gave evidence also before a Select Committee of the House of Commons on the Hampstead Fever and Small-pox Hospital in 1875. How far such distrust and suspicion were found to be justified by subsequent events belongs to the history of the following decade. I will, therefore, conclude this lecture, which deals mainly with the subject of the beginnings of isolation regarded from the modern point of view.

LECTURE II.

Delivered on March 3rd, 1896.

MR. PRESIDENT AND GENTLEMEN,—The Public Health Act of 1872 marked a new era in sanitary administration. Already the reports of the Medical Department of the Privy Council had shown that medical advice and services continuously rendered might reasonably be expected to enable our local sanitary authorities to cope with preventable disease in a manner profitable not only as regards a reduction of the death-rate, but with an immediate saving of public expense, such as that which is always entailed by the presence of epidemic diseases. The promise of such results was found to be amply realised at the end of ten years. During the decade 1873-83 there were in progress, more or less rapid, in all the towns of England important works of public hygiene, such as those concerned with the housing of the artisan classes, improvement of water-supply, &c. There were also in some towns, under the powers of the Public Health Acts of 1872 and 1875, medical officers appointed who, though they might be hospital consultants, were to be independent of private medical practice. Such appointments probably contributed more than anything else to a change in public opinion respecting the preventability of epidemics. The Public Health Act of 1875 contemplated the possibility of some interference with the progress of infectious diseases not only by the appointment of medical officers, the establishment of hospitals, means of disinfection, &c., but by the penal clauses which relate to the exposure of infected persons, clothing, &c. But to those whose business it was to give much thought to the matter, and who were constantly considering the complex social conditions which contributed to the development of epidemics, it became evident that a system of compulsory notification of diseases to some recognised representative of the public sanitary authority was absolutely essential if preventive medical work was to be carried on with a reasonable chance of success. That sanitary authorities should be expected to provide, at the public expense, means of isolation for infectious diseases, as to the occurrence or prevalence of which they were kept in almost complete ignorance, was so utterly unreasonable that prejudice and custom, however strongly established, were bound to give way in the end. A medical officer of health might be called upon suddenly to provide means of isolation for a case of supposed typhus fever or small-pox without having any knowledge as to whether the case was a solitary one or whether there were other cases the isolation of which was far more important from a public point of view. The great majority of the cases of scarlet fever reported for isolation belonged to the pauper class, and although the treatment of such cases in separate buildings at the public expense was, to some extent, a benefit, it seemed utterly inconsistent with any theory of prevention that the great mass of the population (non-paupers), living in small houses or tenements, should not even be cautioned with regard to the dangers of infection or informed of the advantages of isolation. Compulsory or systematic notification, independent of class distinctions, seemed to be absolutely essential. These views by degrees permeated the sanitary authorities of several large towns in the north and the midlands, and as a result the Local Notification Acts of Bolton, Nottingham, Huddersfield, Leicester, and other important towns in England were introduced. The adoption of these Acts was accompanied, as might be expected, with a considerable amount of friction, owing to the novelty of their provisions. It was materially assisted, however, by the experience of Edinburgh, where the system had been adopted under the advice of Dr. (now Sir Henry) Littlejohn. It would be foreign to the subject of these lectures were I to enter upon the history of the Compulsory Notification Act or to discuss the interesting subject of its bearing on the prevention of disease in its wider aspects. The system already applies to about five-sixths of the total population and has now been in operation for several years in many large towns of England. During that time it has become a matter of general knowledge that notification serves other useful purposes besides that of securing or facilitating the isolation of dangerously infective cases; in fact, it is coming to be recognised that it is, as was intended from the first, an essential part of a sound basis of local sanitary administration. It is at the same time well to recall the fact that nothing but the strong claim of practical utility was deemed sufficient to establish a system which involved serious alteration in the long-established rules which govern the practice of our profession.

I would in this place refer incidentally to an interesting paper quite recently read at the Royal Statistical Society by my friend and colleague Dr. Newsholme, the distinguished health officer of Brighton and the Milroy Lecturer for 1895. In a sketch of the history of the attempts to establish a national system of registration or notification of infectious diseases he does not specially refer to the important chapter of events on which I have just touched, and to which the present advanced condition of things is largely due. But for the proceedings during those ten years in certain large towns which were of far more than local importance, and which it is only fair to say were mainly due to the efforts of several medical officers of health, the subject of national notification and registration of sickness would have been very much where it was in 1872. It had already then been made the subject for essays by able and accomplished physicians, acting sometimes as a collective investigation committee, but it could in no sense be considered to have formed part of any system of administration, local or national. The way in which this Act has come into operation has indeed furnished an excellent example of the use of tentative methods in the process of developments of legislation. It is one of many examples also of the advantages attendant upon developing the spirit of local self-government in large communities, and it shows what an important influence the education of the people in matters relating to the public health exercises not only in the adoption but in the carrying out of law. Preventive medicine is, of course, not to be limited in its scope by so-called zymotic diseases, the annual death-rate from the zymotic class being about 3000 per million living; that from the tuberculous class is also about 3000 and that from the bronchitis and pneumonia class is about another 3000 as well, while the mortality caused by rheumatism is probably, as Dr. Newsholme says, much understated by the 433 per million officially ascribed to rheumatic fever, endocarditis, and pericarditis. But we have to remember that as yet we have no practicable means even to suggest for the prevention of many of these diseases. True, that improved knowledge of their natural history and causation, such as would gradually accumulate from the inquiries of statisticians, would in the end prepare the way for effective preventive measures. It is not likely, however, that the general kind of notification advocated in the paper to which I refer could lead to any immediate result; while, on the other hand, it would involve very heavy expenses, for the medical profession, already overburdened, as it undoubtedly is at present, in the matter of certificates and other voluntary or unremunerative work, could not reasonably be expected to add still further to its labours in this direction. If I may be allowed to make the suggestion here, progress in the future will probably be best carried out on the same lines as that of the past—namely, by the tentative methods of which I have spoken and for which we are so

deeply indebted to the authorities of our large towns in the midlands and the north. One point of great practical importance not mentioned by Dr. Newsholme in relation to the scope of preventive medicine is that correctness of diagnosis of those cases in *which preventive measures are administratively possible* is, judging from analogy, likely to be promoted rather than otherwise by an extension of the notification system.

But to return to the immediate subject of this lecture. It was already about the year 1881 becoming evident that systematic notification was essential to render systems of isolation effectual in preventing epidemic diffusion of small-pox and some other diseases, when two very important medical inquiries were undertaken by the Medical Department of the Local Government Board. In one of these Dr. Thorne Thorne was mainly concerned and in the other Mr. W. H. Power. These reports, published with an introduction by the experienced physician and medical officer, Dr. (afterwards Sir George) Buchanan, form one of the most interesting of the whole series of volumes, the contents of which constitute so large a part of the history of preventive medicine, not only in this country, but abroad. Dr. Thorne Thorne's inquiry occupied many months of the years 1880–81, and his report occupies the greater part of the volume. He inspected about seventy hospitals in use by urban, rural, and port sanitary authorities respectively, "of every variety of locality, size, and construction; some thoughtfully devised on a scale adapted to the needs of their districts, and reckoned by those who had provided them as among the most valuable sanitary defences of those districts; others ill-placed, or on an altogether insufficient scale, or badly planned, or doing duty in default of better though of flimsy material and hurried construction." As to the subject of isolation from what I may term the social point of view, and as to the methods of construction of hospitals, I shall have much to say later. And there, again, I shall have occasion to refer to Dr. Thorne Thorne's observations as well as those of medical officers of very long experience. At this stage I would simply record his strongly expressed opinion as to the paramount importance of early isolation of initial cases. This is best given in the form of a statement quoted at page 9 of the report of the Royal Commission appointed to inquire respecting small-pox and fever hospitals published in 1882.

"Answer.—1023. ..... I should occupy you for hours in telling you of instances in which epidemics have evidently been prevented by the isolation of first cases of infectious disease."

The typical instances are those in which contrast is made between the cases where infection has at once been stopped by removal to a hospital, and where, under exactly similar circumstances, a contrary course has led to a spread of the disease. The whole tendency of the observations by public health officials has been for many years in this direction. Indeed, it may be said that all but the most sluggish or obtuse of sanitary authorities have long ago seen the desirability of promoting isolation. Far greater progress would long since have been made had it not been for the many practical difficulties that have arisen in connexion with the establishment of hospitals for this purpose. Of one of the principal of these I have now to speak. "When Dr. Thorne's inquiry was planned," says Dr. Buchanan, "it was not intended that it should extend to the metropolis, and in the end, beyond a little contribution from the experiences of the London Fever Hospital, his report dealt with the provinces only. This limitation was made partly from the reason that the circumstances of London were expected to be so intricate that the influence of hospitals upon population was especially difficult to recognise, partly from the reason that the principal infectious disease hospitals of London were Poor-law institutions." "At the end of 1880, when Dr. Thorne's inquiry was in an advanced state, representations were received by the Board that cases of small-pox were occurring in an exceptional fashion round certain of the Metropolitan Asylums Board hospitals, and it was felt that Dr. Thorne's experience on this subject, derived from hospitals in the provinces, ought not, without further inquiry, to be accepted as representing the whole truth for hospitals in London. Accordingly, Mr. Power was associated with Dr. Thorne for the particular purpose of examining the facts in the neighbourhood of Fulham." With regard to a special outburst of small-pox that occurred in 1881 Mr. Power had an opportunity of studying, with "very notable exactness and at the earliest possible moment, all the circumstances of one of those local epidemics which have been supposed to be connected with the proximity of hospitals. The outburst affected the parishes of Chelsea, Fulham, and Kensington, near the junction of which the Small-pox Hospital is situated. These parishes had before been practically free from small-pox, but in the course of a fortnight fifty-six houses in them had been invaded by the disease, and some curious further limitations, both in place and time, became apparent." In the end, after studying the phenomena of the 1881 epidemic and the distribution of small-pox around the hospital in each of the epidemic periods during which the hospital had been used, Mr. Power announced the following results of his inquiry with regard to the Fulham Hospital:—

"There has been in each epidemic period a successive incidence of small-pox at houses in the neighbourhood of the hospital, as compared with more distant houses in Chelsea, Fulham, and Kensington.

"The percentage of houses invaded in the neighbourhood of the hospital has become gradually smaller as the distance of the houses from the hospital has increased. This gradation has been very exact and very constant.

"Houses upon the chief lines of human intercourse with the hospital have not suffered more than houses lying in other directions from the hospital.

"In point of time there has been a very marked relation between the varying use of the hospital and the manifestations of excessive small-pox in the neighbourhood. This relation has not shown itself when the use of the hospital has been for convalescents only.

"The appearance of excessive small-pox in houses around the hospital has never been delayed until the hospital has become full or nearly full. It has been always most remarkable at a time when admissions to the hospitals were beginning to increase rapidly.

"On comparison of different epidemics, an almost constant ratio is observed between the amount of the hospital operations and the degree of excess of small-pox in the neighbourhood. The machinery of the hospital administration, with inclusion of defects in that machinery, does not account for the peculiarity of small-pox incidence within the three parishes of Chelsea, Fulham, and Kensington since the establishment of the hospital.

"There must have been some condition or conditions operating to produce the observed distribution of small-pox around the hospital that have pertained to the hospital as such, and that have been in excess of the conditions for small-pox extension as usually recognised."

On the presentation of Mr. Power's report it was seen to be of great importance that his facts and inferences should be without loss of time subjected to special skilled examination. A Royal Commission was therefore appointed to inquire into the whole subject of hospital accommodation for fever and small-pox cases in the metropolis. As I have quoted *in extenso* the conclusions arrived at by Mr. Power, as set forth and adopted by Sir George Buchanan, it is desirable that I should also give in this place the section of the report of the Royal Commission just referred to (published in 1882), dealing with the most important of those conclusions. Passages 30 and 31 of the report are as follows:—

"One point appears to have made so much impression on several important witnesses that it should be specially noticed. Mr. Power himself clearly perceives and fully admits that the graduated distribution of disease around the hospital, which is so remarkably illustrated in his report, is as explicable by personal communication as by atmospheric dissemination. '*With such a hypothesis*,' he says (meaning that of dissemination), '*equally as with the hypothesis of conveyance by human movements, the gradation of hospital influence from centre to periphery would be in complete accordance.*' The admission is so material that it ought to be developed. Let us replace the image of a wave, which is suggestive of one hypothesis, by an image equally appropriate but adjusted to the other. Instead of an expanding wave let us imagine a number of converging and diverging lines of inflection. It is plain, in the first place, that along these lines—the lines of hospital communication—the in-coming and out-going of persons and things would offer more occasion of disease, wherever these persons and things were likely to pass in their route, and by consequence more in the immediate neighbourhood of the hospital than farther off. But, disregarding this fact of propinquity, and supposing that one quarter of a mile is as fruitful in occasions of contact with the carrier of infection as another, let us imagine that on the different lines of communication which radiate to and from the hospital infection is shed equably along the whole of their course, and is represented on a diagram by black lines, varying in breadth according to the amount of infection which has been dispersed, and in length according to the distance along which it is carried. It does not need the actual inspection of such a diagram to perceive that the effect of these lines in blackening each successive hospital ring will constantly increase as they close in on the centre, or, in other words, that the converging in-comings and out-goings of the hospital would produce exactly that 'graduated intensity of infection,' from which, prior to reflection, we are tempted to infer an expanding wave. The argument is capable of arithmetical statement, and it would be easy, if it were worth while, so to exhibit it."

It will be seen, therefore, upon the all-important question of the atmospheric dissemination that the Commission—on which there sat the following eminent members of our profession: Sir James Paget, Sir Rutherford Alcock, Dr. Burdon Sanderson, Sir William Broadbent, Mr. Jonathan Hutchinson, and Dr. Alfred Carpenter—did not see their way to a positive conclusion. In the same Commission they had taken a considerable amount of evidence on the subject of the

diffusion or dissemination of small-pox in consequence of the utter absence of any system of notification in the metropolis. Personally, I would dwell upon the great significance of this absence of essential knowledge, for at the time at which these inquiries were made I was myself officially fully cognisant of the difficulties of ascertaining actual facts as to the prevalence of small-pox attacks even in a provincial town. Everyone who has lived in the provinces, even in a large manufacturing town, knows well enough that the circumstances are very much less intricate than in London. I have had considerable official experience of both, and I can speak emphatically upon this point. (*Vide* especially Transactions of the Society of Medical Officers of Health, 1884-85. Discussion on Small-pox Hospitals, pp. 110, 116.)

While fully recognising the merits of the famous inquiry of 1881, the following points must I think, still be left open to question: 1. The possibility, under the circumstances of 1881, of absolutely excluding the other chances of infection in the case of persons attacked in the month of January. (Several of these, it will be remembered, were outside the half-mile radius; it would certainly have been said before 1881 that there was not even the most remote possibility of their infection at such a distance. 2. Assuming the possibility of distal (i.e., long distance) infection, what are the probabilities of such a method of infection, as compared with the probabilities of proximal (i.e., close distance) infection (meaning by the latter term the infection which takes place in ordinary personal communications)? 3. Is "distal infection" a dominant or controlling factor in the spread of small-pox? As to the last point, it would seem from the publications which have been chiefly in evidence of late years that this was seriously contended for. I will not attempt to follow out this point argumentatively; it seems to me to lead to conclusions which are absolutely absurd.

With regard to the first point I have already expressed my own views. As to the probability of distal infection it rests with those who strongly uphold it to indicate its proportions. If we were to judge from the frequency with which this source of possible danger is referred to in the official medical prints we might be led to conclusions which are very erroneous. It is quite remarkable how, in subjects relating to the public health, an account of an interesting and exceptional outbreak described or referred to over and over again in the officially recognised sources of information gives rise to the impression that the occurrence of such outbreaks is common. I could offer many illustrations of this fact derived from my experience as an examiner. We must, therefore, be very careful to distinguish a belief which is due to an impression from that which is the result of a careful study of the facts upon which the statement has been based.

I turn now to the experience of the last decade, which seems to be the best corrective of any false impressions which might arise on this vitally important subject. The recommendation of the Commission in 1882 might be given in their words:—

> "We think it right thus to report the chief grounds for accepting or rejecting the theory of distant atmospheric dissemination of small-pox. But we feel that so long as it is not proved that 'personal communication' is adequate to the explanation of the whole spread of small-pox, and so long as a distant atmospheric dissemination is not shown to be, in the highest degree, improbable, so long it is essential that in the construction and management of small-pox hospitals both sources of danger should be, with the utmost care, guarded against. And in this conclusion we are more than supported by the opinions of witnesses of the greatest authority, including Sir William Jenner, Sir William Gull, Sir James Risdon Bennett, and Sir John Simon."

Those recommendations have led to the adoption of the present system of isolating small-pox, that is to say, by the taking of the cases, as they occur, "out of" the population, and removing them to a distance of several miles to a spot where *true isolation* could be carried out. Looking back upon the state of things before 1886, at which time this system came into operation, and comparing it with what has happened since during the ten years which have elapsed we have, so far as facts and figures go, one of the most remarkable instances on record of the efficacy of any medical preventive measure. I would repeat the words "so far as facts and figures go," for we do not need to go beyond the history of small-pox itself to find illustrations of conclusions which, as subsequent events proved, were too hastily adopted. Still, as far as we are warranted in basing any opinions at all on mortality statistics, this would certainly seem to be one of the most remarkable pieces of evidence which has ever yet been adduced in support of the efficacy of any preventive measure. For even if it be argued that distal atmospheric dissemination played a dominant, or even an important, part in the maintenance of small-pox in London in such proportions as caused it to be spoken of as epidemic we have now the incontrovertible fact that a hospital segregation of cases at a distance has resulted, for a time at least, in a comparative extinction of the disease. All questions of distant atmospheric dissemination apart, does it not seem as if the whole subject resolved itself into a question of notification with *true isolation*—that is, the removal of cases, as Mead advised nearly two centuries ago, to a distance of some few miles out of the town? The success of complete isolation of small-pox has been very striking. Previously to the year 1886, when hospital ships were established several miles down the river, the epidemics, as they were termed, occurred with regularity every three or four years or oftener. These experiences extended back for half a century or so, the deaths occurring on each occasion being from 1000 to 8000. In the intervening periods the mortality varied, but hardly ever amounted to less than several hundred deaths per annum. In 1885 the deaths were 1419; in the following year, when the removal to the hospital ships had taken place, it suddenly sank to 24, the lowest then on record, then to 9, finally to zero, not a single death occurring in 1889. After that a slight rise took place, leading to an outbreak in 1893, relatively considerable, but trifling as compared with the years previous to 1886. The whole period may be shown in a tabular form:—

Year.	Deaths.	Year.	Deaths.
1885	1419	1891	8
1886	24	1892	41
1887	9	1893	206
1888	9	1894	89
1889	0	1895	55
1890	4		

On this subject I may quote the following passage from the *Times* of Jan. 8th, 1896, on Infectious Diseases in London: "The revival during the last four years seems to be attributable to the spread of anti-vaccination and to the institution of philanthropic shelters which attract numbers of tramps to London every winter and herd them together under conditions most favourable to the spread of disease. The fact that the outbreaks attained no larger proportions indicates the efficiency of the present isolation system in controlling them; and though the previous immunity was not wholly due to this cause, since small-pox declined generally in England after 1885, thorough isolation must be credited with having reduced the death-rate from that disease in London to a point below that of the whole country, whereas it used to be much higher." And I may further add that the decline throughout the whole country has itself been ascribed to this diminution in London, which was for many years regarded as the chief nursery of small-pox. At the same time that this remarkable diminution in the death-rate has taken place the proportion of recoveries of cases has markedly increased in the Asylums Board hospitals. The synchronism between the adoption of a new system of isolation and the drop in the small-pox death-rate may just possibly prove another example of the strange vagaries in the behaviour of this disease. If so, the coincidence will be still more extraordinary than that which some thirty years ago marked a sequence of events in a neighbouring country. There the disappearance of small-pox immediately followed a change in the system of vaccination and led to conclusions which longer experience showed to be erroneous. But if, from the very remarkable experience afforded by the past ten years, we come to the conclusion that thorough isolation and the disappearance of epidemic diffusion stand in the relation of cause and effect, we are forced to recognise an influence of so potent a character as to rank second only to vaccination itself. A small-pox hospital, properly situated, must surely be considered a boon and an essential auxiliary to vaccination in a country where the protection of revaccination, though freely offered, is not systematically enforced. I am, of course, aware that there are those whose opinions are entitled to the greatest respect who think differently. They would contend that the State has furnished in vaccination and the opportunity of revaccination the best preventive measures, and that the establishment of small-pox hospitals in an unnecessary tax upon the community generally. To discuss this question would be to enter into a somewhat controversial topic; I would therefore refrain from saying anything more at present. It is my duty to bring to your notice the facts relating to the

value of isolation. This would appear to be very conspicuously shown in the case I have submitted to you, and if the lesson taught by London experience confirms that of the large towns of England we are bound to do what we can to minimise the difficulties attending isolation. Let it not be supposed, however, that the change in the system of isolation was the only factor to be credited with the rapid diminution in the small-pox death-rate. At the same time there was taking place an equally essential change in our methods of sanitary administration. I have already called attention in an earlier part of this lecture to the notification and isolation of cases of small-pox which at Leicester have been relied on for the prevention of epidemic diffusion from single cases to a much larger extent than elsewhere. In view of these lectures I have lately studied again the Leicester official reports — viz., those by Dr. Johnstone (who was the active medical officer of health at the time the notification powers were first obtained, and by whose energy several small-pox outbreaks were suppressed), the late Dr. Tomkins, and Dr. Priestley, both of whom have so ably carried on the work begun in the seventies. But before I refer briefly to the Leicester experiences let me once more call to your notice a fact which has not always been remembered even by those in our profession who might be expected to be specially informed—viz., that the term "epidemic" is entirely a relative expression—in other words, that what would be considered an epidemic now would, even at the time when I first undertook the duties of a medical officer of health, have been considered no epidemic at all; indeed, nothing more than ordinary endemic (if it be so called) prevalence of the disease. This it is only fair to the authorities of Leicester to state. As an illustration of the impressions that arise from the frequency with which a subject is referred to in the official or semi-official prints, may be mentioned the small-pox prevalence in Leicester in 1892, which is no doubt classed amongst severe epidemics. This epidemic consisted altogether of 357 cases in a population of nearly 180,000, or less than 2 persons in every 1000 of the population. The total mortality was only 21, which, when we compare it with that of other towns, was not so very great, and would certainly not have been considered indicative of an epidemic in former times. The Leicester system, as it has been termed, is in reality a mixture of systems, none of which are carried out in perfection. In the first place, what makes the case of Leicester exceptional is the large proportion of unvaccinated children; this, however, does not imply that the proportion of persons altogether unprotected by vaccination is so markedly in excess as is generally supposed. The population of the town was, as a whole, well protected by vaccination until late years. Dr. Priestley, in his report referring to quarantine statistics, says: "It is clear, therefore, that small-pox has broken out chiefly amongst the vaccinated adult population, and has been prevented from spreading, not only by prompt isolation and other measures taken, but also by the fact that our adult population is vaccinated, and therefore somewhat protected, while at the same time 107 children under ten years of age have suffered. What would have happened had the small-pox 'caught on' amongst children of that age-period it is serious to contemplate." Again, hospital isolation was not, of course, the main safeguard, inasmuch as the attendants at the hospital were for the most part specially protected. To quote from the report again: "Thus of 40 officials connected with our small-pox hospital, 6 were inefficiently protected, and of these 5 contracted small-pox and 1 died, whilst of the other 34, all of whom were efficiently protected either by revaccination or a previous attack of small-pox (as shown by extensive pitting), not one contracted small-pox." So that around the centres of infection segregated at the hospital was a cordon of protected persons. But over and above vaccination and revaccination, Leicester has been following a practice rather than a system which is peculiar to itself. In the first place, Leicester is not one of the towns which have availed themselves of the recommendation of the Royal Commission and secured a site at a considerable distance from the borough, where something like *true isolation* could be carried out, and in consequence a good deal of trouble arose there by the infection of persons suffering from scarlet fever isolated (save the mark!) in the buildings on Freake's ground. Moreover, persons living in a comparatively isolated suburb called Newfoundpool, which is close to the hospital, suffered specially, whether by direct or aerial infection does not appear to be absolutely certain. So that in point of one of its essential isolation equipments the Leicester system was inferior to that of some other towns. On the other hand, most extraordinary precautions for the early notification and detection of possibly infected cases are carried out with great loyalty by the staff of the health department and submitted to by the population. I have already in my first lecture stated what the special Leicester quarantine regulations are.

[Here the lecturer exhibited spot maps and described the important observations of Dr. Coupland on behalf of the Vaccination Commission, made during the small-pox prevalence at Leicester, which bore directly on the subject of isolation. He continued:]

The strong points of the various systems carried out at Leicester are: the very great care taken in the detection, diagnosis, and early reporting of cases; the immediate removal of cases to the hospital; the subsequent quarantining of the inmates of the infected houses, either (*a*) at special buildings, or (*b*) at home, and in either case the subsidising of the persons so quarantined; and, above all, the revaccination of the persons who, by their attendance upon the sick, would be most likely to fall ill. (In this last respect Leicester is only in line with other places.) The weak points of the Leicester systems are (1) the large proportion of young children unvaccinated, the danger of which was exemplified in their outbreak of 1892; (2) the position of their hospital, which is too near to a populous suburb and not sufficiently far from the main portion of the town to constitute what we may term true isolation; and (3)—the greatest imperfection of all, according to modern views—the fact that cases of scarlet fever are isolated almost alongside of small-pox. The dangers attending this last-named practice—namely, that of isolating small-pox in buildings contiguous to and perhaps in communication with those occupied by scarlet fever patients—is one that is specially dwelt upon by Sir George Buchanan in his introduction to the report of 1882 on the use and influence of isolation hospitals, where he speaks of the misfortunes within the walls of the institutions themselves. Ten years before the 1892 outbreak at Leicester there had been experiences in a neighbouring town of the dangers arising from attempting to isolate scarlet fever in a group of huts or sheds arranged on an area of seven acres of ground when small pox also at the time of a rising epidemic was being admitted. Small-pox cases took scarlet fever and *vice versâ*. Such isolation (so called) can only by spoken of as quite unpermissible at the present day. It cannot therefore but be recognised that in this respect the Leicester system was especially weak. Taken as a whole, therefore, the lessons taught by Leicester are not nearly so instructive as to the value of isolation as they might have been had the authorities secured a better position for their hospital and understood the value of true isolation in every respect. In such a case it is possible they would have still further postponed the occurrence of an outbreak assuming what is termed epidemic proportions. It will, of course, be understood that I speak of the Leicester experiences strictly from the point of view of isolation and as illustrating the great influence which was exercised first of all in the provincial towns by precautions other than vaccination and specially adapted to diseases which are infectious, like small-pox. Elsewhere in the provinces for many years great activity had been displayed in dealing with initial outbreaks of this disease, some towns having acquired not only special powers as to making notification systematic and compulsory, but others having sought for powers which the Sanitary and Police Regulation Committee of the House of Commons were eventually obliged to stop on the ground of undue interference with personal liberty. At the time, then, of the small-pox prevalence from 1881 to 1886 it was beginning to be understood in London, as elsewhere, that the medical officer of health of a district being supported by an authority who did not stint expenses of isolation, and even occasionally for the compensation of individuals, it was quite within the bounds of possibility, for a time, at any rate, to prevent epidemic diffusion, and that where, as in most towns, such precautions were assisted by the early revaccination of the inmates of infected households the public had additional safeguards against the spread of the disease. I can testify from experience as a medical officer of health of a London district and as a member of the Metropolitan Asylums Board that these provincial experiences, which were much discussed at the Society of Medical Officers of Health, produced an effect on London

sanitary administration during those years resulting in a striking diminution of the disease; so that by the time the central office had provided its hospital ships and completed its excellent ambulance arrangements the medical officers of health were quite ready to take advantage of them. Even without compulsory notification it seemed to be possible to learn of every case as it occurred, and but a very short interval elapsed before it was removed far out of London. The conditions in 1889, the year of no small-pox deaths, not only as regards the system of isolation, but also the system of sanitary administration, were as different as they well could be from the time when Mr. Power made his inquiry at Fulham in 1881. How far exactly improved sanitary administration and how far the essential change in the isolation system were to be credited with what followed it is obviously impossible to say with certainty. Before leaving this part of my subject let me refer again to an expression that I have used already—namely, that small-pox hospitals are under certain circumstances entitled to be considered a boon. They have, moreover, no appreciable counterbalancing disadvantages. That, at any rate, is the conclusion I arrived at after studying the effects of the extra-urban isolation of small-pox. That, also, would seem to be the opinion arrived at by Dr. John McVail, who gave a very interesting discourse on the subject of aerial convection of small-pox from hospitals at the Epidemiological Society two years ago. On that occasion he recalled the controversy between Dr. Haygarth of Chester and Professor Waterhouse of Cambridge, U.S.A., on this subject a century ago. I give Dr. McVail's conclusions in his own words:—

"1. There must apparently be intensity of virus depending on (*a*) the period of the epidemic, a rising epidemic being important, and (*b*) concentration of acute cases as centres of infection; (*c*) there are apparently also minor waves of epidemicity referring to particular days or weeks, these waves constituting flood tides of infectivity.

"2. (*a*) A foggy condition of atmosphere or light winds appear to be of consequence, as observed both by Waterhouse and Power; (*b*) possibly *only* the atmosphere of towns or cities may possess the necessary carrying power. No good evidence has yet been adduced of such occurrences in connexion with hospitals situated in rural districts; but no doubt the failure here may be as much owing to want of population as to atmospheric condition.

"3. Bearing in mind the conclusions arrived at by Dr. Whitelegge in his Milroy Lectures, it may well be the case that part of the influence of a rising epidemic is due to the existence in any special area of a greater or less number of persons specially susceptible of small-pox and easily infected by its first active onset. The supply of such persons would be rapidly diminished or exhausted and would not be renewed in the course of any single epidemic."

"*No good evidence has yet been adduced of such occurrences in connexion with hospitals situated in rural districts.*" This is true, I believe, in a very wide sense, if we include under the term "rural" institutions which, though not remote from towns, partake of the rural character, so far as isolation is concerned. In 1887 I had the opportunity of making a short visit to New York and of seeing, with the medical officer, some arrangements in that city for the isolation of infectious diseases for which the public authority was called upon to make accommodation. I was informed at that time by the health officer that no special incidence of small-pox had been noted in the part of the city which would come within the range of distal infection from the island on which the small-pox cases were segregated. Of course, the incidence may not have been specially looked for, but it cannot have been marked or attention would have been drawn to the subject as was the case round Fulham Hospital in 1880. Within the last few weeks I have received a communication from Surgeon-General Billings, from which I quote the part relating to small-pox diffusion: "With regard to your question as to the diffusion from small-pox hospitals I do not know of any record of anything of the kind in this country, but the small-pox hospitals of our cities are usually located at a distance from any habitations in very thinly settled suburbs. I am familiar with the reports of the Local Government Board on this subject and think that Mr. Power's argument is a strong one, but I am of the opinion that a collection of small-pox cases may be so managed as to prevent the diffusion of specifically infectious dust therefrom." At various times during the last few years I have also had the opportunity of discussing this question with gentlemen officially connected with sanitary administration in Australia and at the Cape Colony, where, so far as my information goes, atmospheric dissemination has not been regarded in any way as a drawback to the hospital isolation of small-pox. Still, as the Royal Commissioners cautiously observed, the utmost care should be taken to guard against it in the event of its becoming necessary at times of continued fogs or other special circumstances to retain acute cases of small-pox in towns. It was suggested by Professor Burdon Sanderson, a member of the Royal Commission, that under such circumstances hospitals might be constructed so that the air of the sick wards should be subjected to a high temperature. A small committee, of which I was one, was formed in 1889 to consider the practicability of this suggestion. I believe I am right in saying that Sir Douglas Galton was ready with a plan, but we were unable to persuade the Asylums Board that it was necessary to adopt such a measure. I confess I have been the less disappointed at our failure on learning, as I have done during the last few years, from the reports of medical officers in Surrey that they have been for a long time in the habit of drafting cases of small-pox which occurred in country districts, not, it is true, into the very heart of London, but into a district which, if we take the proportion of persons per square mile, is comparable to a very thickly inhabited town. It is gratifying to note that all the time that process has been going on we have heard nothing of those dangers which we have been taught to associate with the hospitals for which the Poor-law Department of the Local Government Board was primarily responsible.

In concluding this lecture I feel that I ought to give some reason for dwelling so long upon the one disease variola. The proportion of the small-pox death-rate at the present day, since the adoption of vaccination became general, is comparatively insignificant, and if we compare the death-rate from this cause with that of the other principal zymotic diseases it may be called trifling. On the other hand, this disease affords a most striking proof of the value of preventive measures such as are administratively possible at the present day. It is from that point of view mainly, I need not remind you, that public health departments have to regard disease prevalence. They must also regard it partly from the view of the lesson which it may possibly afford in the treatment of other infectious diseases. With regard to the prospects held out of a complete riddance of that which a century ago, before the time of our countryman Edward Jenner, was a terrible plague all over the world, may it not be possible that these lessons we are learning at the end of the century may teach us much which will prove essentially valuable in the preventive treatment of other diseases? The behaviour of small-pox under different conditions, which has been so closely studied, may throw a light on many questions of epidemiology and may eventually enable us in a most practical sense to widen the scope of preventive medicine.

THE EFFECT OF EXERCISE ON THE EXCRETION OF UREA: A CONTRIBUTION TO THE PHYSIOLOGY OF FATIGUE.

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I POINTED out about nine years ago[1] the fact that the fall of uric acid excretion brought about by the administration of an acid was almost always accompanied by a rise in the excretion of urea. But owing to ignorance in other directions and to what I now regard as the erroneous observations of others I gave what was probably a wrong explanation of the fact, and otherwise failed completely to appreciate the importance of my observation. Since that time I have found out that uric acid taken by the mouth is not converted into urea, but is in due time excreted as uric acid in the urine.[2] And also that while a marked fall in uric acid is commonly accompanied by a rise of urea, a marked rise of uric acid is also commonly accompanied by a fall of urea. It was only, however, comparatively recently in working at the physiology and pathology of fatigue that I appreciated something of the real bearing and importance of my previous observations. Thus in the second edition of "Uric Acid" in Chapter viii., on Mental Depression and Fatigue, I point out, on p. 160, with regard to the causation of fatigue, that while such drugs as opium and

[1] Journal of Physiology, vol. viii., p. 215.
[2] Ibid., vol. xv., p. 167.

cocaine, which clear the blood of uric acid, relax the arterioles and improve the circulation in all the organs and tissues of the body, greatly increase bodily strength and power of endurance, it is probable that excess of uric acid in the blood, which contracts the arterioles and diminishes the circulation in all the organs and tissues, will produce fatigue of body as well as depression of mind. I then go on to point out that the effect of exercise is to lower the acidity of the urine owing to the increased excretion of acids by the skin in perspiration; that the fall of acidity, or, more accurately, the increased alkalinity of the blood, allows the passage of an excess of uric acid through it; and that this is accompanied by a fall of urea and the presence of more or less marked feelings of fatigue. Here, then, is the physiology of fatigue—depressed and deficient circulation in the muscle and nerve tissues owing to excess of uric acid in the blood; and this is obviously the explanation of the great disinclination for bodily and mental exertion which accompanies the uric acid headache or mental depression due to the same cause. But if fatigue is thus due to the presence of excess of uric acid in the blood, and if opium and cocaine can for a time abolish fatigue by keeping the blood clear of uric acid, it follows that fatigue will be absent or very slight so long as uric acid is absent from the blood, no matter what method is adopted for bringing about this result; and as there are plenty of ways of keeping the blood clear of uric acid it follows that there are also plenty of ways of preventing fatigue besides the use of opium or cocaine, or any drugs which act in the same way. Opium and cocaine keep the blood clear of uric acid by raising the acidity; they thus counteract the effects of exercise and prevent the blood becoming a good solvent of uric acid as its result. But there is obviously another way of keeping the blood clear of uric acid under these conditions—namely, by previously clearing out by means of solvents all the uric acid available to be got into solution by the rising alkalinity of the blood which the exercise produces. Now the most powerful solvent and excretant of uric acid is salicylic acid or one of its salts, and if these are given for four or five days before the exercise is taken, so as to sweep out all the uric acid available for solution in the blood, and if the drug is left off on the day that the exercise is taken, some very remarkable results are obtained. First of all there is a great fall in the excretion of uric acid, which always occurs after salicylates have been taken for a few days and left off, so that there is absolutely no uric acid to come through the blood as the result of the rising alkalinity of exercise and perspiration. And with this condition of things there is almost complete absence of fatigue[3] even with the most severe exercise and the most profuse perspiration, and muscle power and endurance appear to be increased at least 50 per cent.; and, further, there is this remarkable result, that whereas with the plus excretion of uric acid in ordinary exercise there goes a great fall of urea followed by a rise next day, in the exercise undertaken in the absence of uric acid from the blood and in which fatigue is more or less absent there is either an immediate rise of urea or only a very slight fall.

It appears to me that in these facts we have an almost absolutely complete demonstration of the enormous influence exerted by uric acid on the metabolism, nutrition, and function of the whole body, and we have also a nearly complete explanation of a point in physiology which has been much disputed—viz., the influence of exercise on the excretion of the urea. I shall now give a few figures to illustrate the chief points I have mentioned. In Fig. 1 is shown the effect of three hours' bicycle work in the A.M. hours, and the result is a great fall in the excretion of urea—viz., 57 grains—followed by a rise next day of 78 grains. Take the fall from the rise, and the result of the two days is an increased excretion of urea amounting to 21 grains. Note, further, that uric acid is fairly high above urea, so that probably 4 grains of it passed through the blood on the day of exercise. In Fig. 2. is shown in contrast with the above the effect of three hours' bicycle exercise in the P.M. hours of the day; the amount of work done in the two cases is as far as possible identical. Here we see a fall of only 36 grains, followed by a rise of 60 grains next day, and subtracting the former from the latter we get a rise of 24 grains of urea as the result of the two days, so that while the amount of exertion was as near as possible the same in both figures the resulting excretion of urea was the same all but 3 grains. The point which these figures are intended to illustrate is that for the same amount of exercise the fall of urea that results is greater when the exercise falls in the A.M. hours than when it falls in the P.M. hours, and that this is due to the fact that there is generally more uric acid in the urine and blood in the A.M. than in the P.M. hours, for we shall presently see that the fall of urea that accompanies exercise and fatigue is entirely dependent on the amount of uric acid in the blood, and that the amount of fatigue produced by any given exercise varies absolutely with the fall of urea, and is also, therefore, dependent on the amount of uric acid in the blood. And this is no chance result of a single experiment, for I have been working at these points for several years, and it was the remarkable fall of urea that always accompanies exercise in the A.M. hours that first drew my attention to the subject.

FIG. 1.

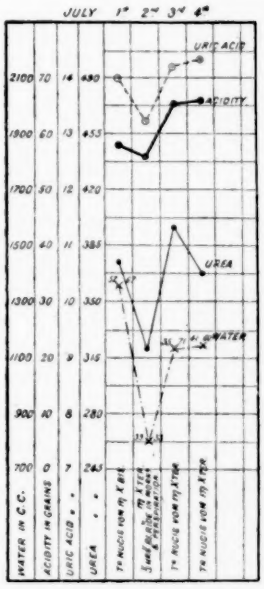
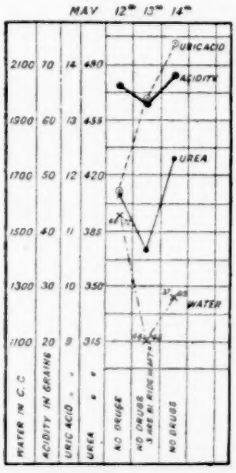


FIG. 2.

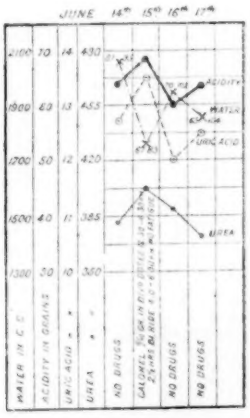


[3] See Uric Acid, third edition, p. 255.

I will merely remark in this connexion that Dr. Vaughan Harley has pointed out[4] that less muscular work can be done at 9 A.M. than at 11 A.M., and that muscle power rises from 9 A.M. to 11 A.M., and that there is also a notable fall in muscle power at 4 P.M. And it is a remarkable fact that there is generally more uric acid passing through the blood at 9 A.M. than at 11 A.M., and about 4 P.M. there is generally also a temporary rise in the excretion of uric acid. Again, I think that almost everyone must have made this clinical observation that children are often dull and heavy and disinclined for both mental and bodily exertion in the A.M. hours, when much uric acid is passing through the blood, while the same children are lively and bright and can hardly be restrained in the P.M. hours, when there is but little uric acid in the blood. *A priori* one would expect that the facts would be exactly the reverse, for in the A.M. hours the child has just been refreshed by a long night's rest and in the P.M. hours it has borne the burden and heat of the day. Then with regard to Weston and his competitors, whose fatigue symptoms were observed by well-known members of the medical profession, I have pointed out that all the symptoms described are those which betoken the presence of excess of uric acid in the blood. We see, then, that in physiological conditions exercise undertaken in the A.M. hours generally causes greater fatigue and a more marked and decided fall in the excretion of urea than similar exercise undertaken in the P.M. hours. We shall now see that if measures are taken to keep the blood clear of uric acid during the exercise it will be accompanied by little or no fatigue and will also produce little or no fall in the excretion of urea.

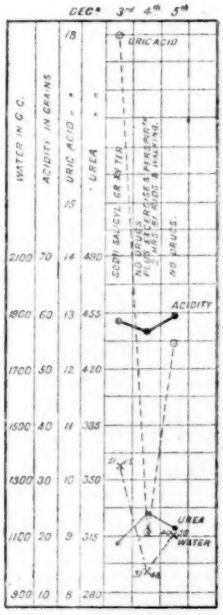
I have already referred to the action of opium and have elsewhere pointed out that it clears the blood of uric acid by diminishing the alkalinity of the blood. Now the action of opium in preventing fatigue is so well known that I wished to give a figure showing its effects on the excretion of urea and uric acid under exercise in myself; but I was met by this difficulty. My diet is one in which milk is almost the only animal food, and I further consume a considerable quantity of fruit and vegetables, and the result is that I have a large introduction of alkaline bases and but a small introduction of acids and acid salts, such as the phosphates and sulphates of animal tissues; the consequence is that the acidity of my urine is much lower than that of those who eat ordinary diet and the alkalinity of my blood probably much greater. Hence I found that opium (in such doses as I cared to take) had comparatively little effect on the acidity of my urine, and as it thus affected the alkalinity of the blood but slightly it

FIG. 3.



failed to clear the blood of uric acid and also failed to prevent fatigue and a fall of urea when exercise was taken. I therefore turned aside and selected a drug which acted independently of acidity and cleared the blood of uric acid—viz., mercury, though other metals, as copper, zinc, or silver, would have done equally well; and I have no doubt that the action of these metals in forming insoluble compounds with uric acid accounts for the so-called tonic effects of small doses of these metals or their salts. I have pointed out that the urates of mercury are insoluble,[5] and Fig. 3 shows its effect in the form of calomel on the excretion of urea under exercise, and we see that there is an immediate rise of urea to the extent of 23 grains, followed by a fall next day; and with this rise of urea there was not only absence of fatigue but a feeling of increased muscle power and endurance. In the same figure we see that on June 17th two hours of gentle exercise without any calomel produced a fall of urea. But there are other ways of keeping the blood clear of uric acid besides giving mercury, opium, or other drugs which directly or indirectly diminish the solvent powers of the blood for uric acid. And one of these is to clear out of the body by means of solvents all the uric acid immediately

FIG. 4.



available to be got into solution in the blood when its alkalinity is increased by exercise and perspiration. And perhaps the best way to accomplish this is to take a course of salicylate of soda for four or five days before the day on which the exercise is to be taken and then on the day of exercise stop the drug; the result is that uric acid falls very low, generally considerably below urea, and there is little or none to pass through the blood, and under these conditions fatigue is for many hours completely absent even in spite of severe exertion with perspiration, and the day's excretion of urine shows that there is also little or no fall of urea or even a rise. Fig. 4 shows the effect of some exercise taken the day after a dose of salicylate which had caused a very large excretion of uric acid; on the day of exercise the uric acid fell greatly and was slightly below urea, and with this there was an immediate rise of urea to the extent of about 19 grains followed by a fall next day. I have made similar experiments on numerous occasions, but shall only shortly mention my results in one more. On June 10th, no drugs having been taken for several days, I rode thirty-five miles on a bicycle, the exercise beginning about 11 A.M. and ending about 5 P.M. This produced a fall of urea equal to 27 grains followed by a rise of 52 grains next day, and the same rise was maintained on the following day, though this was partly accounted for by further exercise. On June 24th, after a four days' course of salicylate of soda and the drug having been left off, I rode at about the same hours of the day forty-five miles on a

[4] THE LANCET, May 12th, 1894.

[5] Uric Acid, third edition, p. 61.

bicycle. The daily curves show uric acid decidedly below urea and a fall of urea equal to 18 grains followed by a rise of 23 grains next day and 70 grains the day after. My notes show, however, that on the day this exercise was taken my food was unfortunately deficient for at least one meal, owing to my having accidentally left behind part of my supply, and but for this I think that there might have been no fall of urea on the day of exercise and a greater rise on the day that followed it. As it is, however, the difference between a fall of 27 grains for thirty-five miles and a fall of 18 grains for forty-five miles is sufficiently marked, and on the forty-five miles day there was little or no fatigue in spite of severe exercise and perspiration till supplies of food began to run short. There is one further way in which the amount of uric acid in the blood or available for solution in it can be diminished, and that is by diminishing the daily introduction of uric acid,[6] and this is an experiment which is constantly being performed for us by others. I refer to vegetarianism. And in my book[7] I have referred to the fact that in a long-distance walk, which excited some interest and which is mentioned in THE LANCET,[8] the winners out of a large number of competitors were vegetarians. And in this country also, though vegetarians are quite insignificant as to numbers, they are not very rarely, I think, seen in the front of competitions in endurance. It is precisely in the long distance that the absence or relative absence of uric acid from the blood tells; the meat-eater will do very well for half an hour or even an hour, the relatively low alkalinity of his blood suffices to keep it pretty free from uric acid for that time in spite of the exercise; but once his alkalinity rises decidedly the inevitable uricacidæmia results, and he is then quickly outpaced by his vegetarian competitor. Of course, training counts for something and one of the effects of training—i.e., of regulated daily exercise—is to provide for a free excretion of uric acid more or less every day, so that the man who is in training will not have so much uric acid in his body available for solution in his blood as the man who, being on the same diet, starts for his race without any training direct from sedentary work. I am frequently asked by sceptics on diet whether I am strong and fit for any exertion, and I reply that, other things equal and sedentary life apart, I am quite as strong on my present diet as on any other, and, further, have far more power of endurance than on any other diet. Of course, it goes without saying that with low urea nothing can be done—*nihil a nihilo fit*. But then my point is that my urea is not low; it remains at or about the physiological level of from 3 to 3·5 grains per pound per day; but I get the nitrogen necessary for this from sources which introduce into my body as little as possible of unnecessary uric acid—that is to say, I avoid meat, meat extracts, soup, beef-tea, and strong tea or coffee.

But to return. These facts seem to demonstrate pretty clearly that fatigue is proportional to the amount of uric acid available for solution in the blood at the time that any given muscular exertion is undertaken, and that the immediate effect of the exercise on the excretion of urea is similarly directly determined by the amount of uric acid present. I would point out that these results of mine correspond absolutely with those of Parkes, for he often found a diminution of urea during the exercise, followed subsequently by a slight rise, and they serve to explain also most completely the conflicting evidence and contradictory results of other observers. Such contradictory results can now be absolutely explained, for we see that they are simple results of fluctuation in the excretion of uric acid, and if you control the uric acid you can control also the effect of the muscular exercise upon the urea and not only that but also the fatigue which the exercise produces. My results bear also in a most important manner on the explanation that is to be given of the results obtained by Fick and Wislicenus in their celebrated experiment, in which they performed a certain amount of work on a non-nitrogenous diet and estimated the nitrogen excreted, with the result that the excreted nitrogen fell very far short of the amount required to account for the work performed. From this experiment it has been concluded that their muscular energy had other sources besides their proteid metabolism, and this may still be the correct conclusion, though the results I am now bringing forward must, I think, be regarded as modifying it very considerably. In the first place, my experiments show that exercise always produces, sooner or later, an increase in the excretion of urea, and I have absolutely no doubt about this fact, as I have been watching it for years in my daily work at the excretion of uric acid and urea and have hundreds of curves to prove it. I am also at this point in complete accord with the results obtained by North[9] in his elaborate and careful experiments, as he showed that in times of rest there was a storage of nitrogen in the body and that after exercise there was an increased excretion of a roughly corresponding amount. The results I now bring forward further show that the time at which this increase of urea is excreted depends absolutely on the amount of uric acid present in the blood. Clear the blood of uric acid by no matter what means, the exercise will be accompanied by an immediate rise of urea; bring a lot of uric acid into the blood—and it is easy to do this[10]—there will be an immediate fall of urea, followed by a rise next day.

Clearly, then, the differences and contradictions between the results of previous experimenters were due to ignorance of this fact, and this explanation has a special and important bearing on the experiments of Fick and Wislicenus, for they did their work on a non-nitrogenous diet. Now it follows simply from my previous researches that one effect of placing themselves on a non-nitrogenous diet would be a great fall in the acidity of the urine, and a corresponding increase in the alkalinity of the blood; and the natural and only possible result of this would be (as they had exercised no care to clear out uric acid beforehand) that their blood would be forthwith flooded with a more or less large amount of uric acid from the stores in their bodies, and the result of this would be, as we have seen above, that muscular exercise would be accompanied by a great and immediate fall in the excretion of urea. No doubt next day, as in my experiments, there would be a rise that more than compensated for the fall; but these experimenters estimated the nitrogen of twelve hours before labour, of three hours during labour, and of six hours' rest after labour, and drew their conclusions from these; but this period would not be nearly long enough to include the rise that followed the fall, hence the nitrogen they obtained was very far short of the amount really excreted as the result of the exercise taken, and their results are to this extent fallacious. Though this argument applies to their experiments as a whole, it is interesting to note that they did get an immediate increase of the excreted nitrogen at the time of the exercise, thus:[11]

—	Nitrogen excreted in grammes per hour.	
	Fick.	Wislicenus.
In twelve hours before the labour ...	0·575	0·556
In three hours' labour	1·103	1·043
In six hours' rest after labour	0·405	0·403

But this, no doubt, corresponded absolutely with the excretion of uric acid and the amount passing through the blood, for though they took no nitrogen during the experiment the nitrogen they had previously taken served (as shown by North) to keep them going and prevent any great increase of the alkalinity of the blood till the exercise had been going on for some time; but towards the end of the exercise, and still more in the rest after it, there would be a great rise in the alkalinity of the blood increased by the absence of nitrogenous food, and it would be flooded with a correspondingly large amount of uric acid. The result of this would be just what the above figures show us, a great fall in the excretion of nitrogen in the hours that follow the labour, for during the hours of labour it was upwards of one gramme per hour for each of the experimenters, but in the rest which followed it fell to less than half a gramme per hour. If the hours of labour had been examined hour by hour I have no doubt that the larger excretion of nitrogen would have been in the first hour and a half or two hours, and that after that there would be a considerable fall, and if uric acid and urea had been separately estimated uric acid would have been

[6] See Journal of Physiology, vol. xv., and Brit. Med. Jour., December, 1894.

[7] Uric Acid, third edition, p. 263.

[8] THE LANCET, June 10th, 1893.

[9] Proceedings of the Royal Society, 1885, p. 501.

[10] Journal of Physiology, vol. xv.

[11] From figures given in Professor Foster's Text-book of Physiology, 1877, p. 325.

found below urea (in the relation 1 to 35) at the beginning of the labour, but far above it towards the end and in the rest which followed. (See also previous remarks about vegetarians and meat-eaters.)

As I pointed out at the beginning of this paper, the amount of uric acid in the blood not only controls the excretion of urea under exercise but under all conditions, from hour to hour and day to day, and practically every rise of uric acid is accompanied by a fall of urea and every fall of uric acid by a rise of urea. In attempting to verify these statements, however, those who come to the subject *de novo* must bear in mind certain simple propositions—viz., that the rise and fall of uric acid must be sufficiently decided to overcome other concomitant fluctuations in a reverse direction; for instance, it would require uric acid to be very high indeed to overcome the rise of urea that generally follows the day after exercise; but in pathology uric acid may be high enough even to do this if its rise is in part the result of a complete upset of gastro-intestinal digestion. On the other hand, if uric acid has been for some hours above urea and is brought down below it suddenly with any drug, the probability is that there will be a fairly marked rise of urea corresponding to its fall; but if uric acid has been close to urea for some hours before the drug is given to bring it lower the rise of urea may be too small to show in the curves. And it was, as I have pointed out, the rise of urea that followed the ingestion of uric acid that was thought by Sir A. Garrod and other observers to show that the uric acid given had been converted into urea; but we now know that any acid or metal which clears the blood of uric acid will produce a similar rise of urea, and yet these substances introduce no fresh nitrogen into the body and are incapable of conversion into urea. We also know that uric acid taken by the mouth acts as an acid and for a time also clears the blood of uric acid and so causes a rise in the excretion of urea; but the uric acid taken will pass out in the urine a few days later, and will increase the ordinary excretion in proportion to the amount that was swallowed.[12] If, then, uric acid in the blood controls, as above pointed out, from hour to hour, day to day, and during and after exercise, the excretion of urea we may consider for a moment the way in which it produces such effects. Now I have for years been pointing out that uric acid in the blood controls the circulation throughout the whole body, and that its excess in the blood is at all times accompanied by high blood pressure and deficient capillary circulation throughout the whole body, the latter being the cause of the former. I have further said that the best proof of this is to be seen in the fact, which anyone can verify in a few hours of work, that the hourly and daily excretion of water by the kidney varies inversely with the uric acid also excreted from the kidney. And I believe that there can be no explanation of this fact save that I have given, that the uric acid, directly or indirectly, obstructs the flow of blood through the arterioles and capillaries of the kidney and thus prevents the passage of water out of the blood into the urine. Here, again, investigators must bear in mind certain cautions: first, that where there is no excess of water in the blood, relaxing the arterioles by clearing the blood of uric acid will not produce a diuresis; and, secondly, that when the blood is cleared of uric acid even for a short time there may be so great a diuresis that if care is not taken to separate excretions accurately the urine of several hours may seem to be profuse, though the uric acid during the major part of this time is not at all scanty; but separate accurately from hour to hour, or if necessary from half-hour to half-hour, and you will see that the great diuresis did correspond to low uric acid, and there are plenty of figures in my book which show this. But apart from such sources of fallacy the uric acid and urinary water do vary inversely in everyone from day to day or hour to hour, and every drug that clears the blood of uric acid produces a diuresis if there is any water to be run off, and the action of nearly all the best known diuretics is a simple illustration of this law.

If, then, it be granted that uric acid in excess in the blood does obstruct the circulation in the arterioles and capillaries of the whole body, it is easy to see how it produces fatigue and the fall of urea which accompanies muscular exercise except when the blood is specially cleared of it. For obviously deficient circulation must mean deficient metabolism in all the organs and tissues of the body and deficient removal of waste products from these same tissues, and it is in this way that excess of uric acid in the blood diminishes the excretion of urea during exercise and produces fatigue. It no doubt affects both the muscular and nervous tissues, at the same time producing both fatigue of body and dulness and depression of mind. The effect then of uric acid on tissue metabolism in the human body is the same as if one put a wet blanket on the kitchen fire and shut all the flues to cut off the air supplies; the result is slow and deficient combustion. The wet blanket corresponds to the products of previous metabolism which are left to clog the tissues so long as the circulation is defective; and the removal of the wet blanket is the cause of the rise in urea which accompanies the next fall in uric acid; and obviously this rise of urea is proportional, not necessarily to the fall of uric acid, but to the amount of interference with metabolism that has previously taken place in the tissues. I conclude therefore that the effect of exercise is to increase the formation of urea, and that if there is a free circulation through the tissues owing to comparative absence of uric acid from the blood this urea will pass almost at once into the urine and be excreted. With this condition of things will go comparatively little fatigue and greater and longer continuance of exertion will be possible; but if there is a lot of uric acid in the body or food, so that the rise of the blood's alkalinity which the exercise and perspiration produce can dissolve a large quantity and bring it into circulation, then you will get deficient circulation in all the tissues, and with this a fall in the excretion of urea and great fatigue, so that continued exertion may be almost impossible, and if persevered with may lead to syncope and more serious troubles.

Further, as we have seen above, it is possible by controlling the uric acid to control the result. From this point of view the physiology of fatigue is extremely simple, and, as I have previously pointed out, every symptom of fatigue in Weston and his competitors, the increase of pulse tension, the coldness of the surface and extremities, the alterations in the heart sounds, are but the signs of the contracted arterioles and capillaries which accompany every excess of uric acid in the blood, and under these circumstances a corresponding excess of uric acid in the urine will be found by everyone who takes the trouble to look for it. Professor M. Foster, writing on the physiology of weariness in 1893,[13] attributes it to the presence of a poison in the blood; I believe my researches now suffice to demonstrate that the poison is uric acid. I may point out that these facts explain completely the observed relations between fatigue and weather changes—i.e., that fatigue is greater in warm and less in cold weather, for obviously the warmer the weather the greater will be the perspiration that any given exertion produces, and the greater the perspiration the greater will be the rise in the alkalinity of the blood, and the sooner (other things equal) will it contain excess of uric acid. On the other hand, a cold wind or a cool frosty day will tend to diminish perspiration, and hence will reduce and delay the increase in the alkalinity of the blood; under these conditions much more exercise can be taken without fatigue, just as with mercury, opium, &c., and for the same reasons, for the muscles are kept longer free from the deficient circulation, nutrition, and metabolism which uric acid produces. The argument that has been here applied to the production of energy by muscles holds also probably for the production of heat by these and other tissues—that is to say, when the blood is clear of uric acid there will be increased production both of energy and heat throughout the tissues of the body; therefore, external cold will increase the production of heat and external warmth will diminish the production of heat, just as we have seen that they also increase and diminish the production of muscular energy; and in the action of uric acid on the vessels we have at once established a regulating mechanism that damps down the fires of life when they are not wanted, but allows them to burn brightly when an increased production of heat is required. And I believe that excess of uric acid in the blood not only alters the relation between the temperature of the skin and that in the rectum by shutting the blood out of the skin and increasing the temperature of the deeper parts, a condition recognised by Marey as due to contraction of skin vessels,[14] but when the excess of uric acid in the blood is great, as in certain pathological conditions, I believe that the contraction of vessels throughout the body diminishes

[12] See Journal of Physiology and Brit. Med. Jour., December, 1894.

[13] THE LANCET, June 17th, 1893.

[14] Circulation du Sang, p. 590.

the absolute production of heat, and then the temperature in the rectum as well as that in the mouth or axilla may be subnormal. As Marey truly points out, when the temperature of the surface is subnormal we must take the temperature in the rectum also before we can decide which of the above causes accounts for the low skin temperature; but I shall have more to say on these points some other time. I must not prolong this paper by a discussion of all the physiological and still less of the pathological bearings of the subject; but if I am right we shall be able (and I have fairly good reason to believe that I am able now, for I have known most of these facts and have been acting on them for a considerable time) not only to control fatigue in physiological conditions but also to prevent its development into such more serious troubles as syncope with dilatation and strain of the heart, or albuminuria, or disintegration of the blood, all of which I take it, and have elsewhere suggested, are but the results of the more serious and prolonged action of uric acid on the circulation, nutrition, and metabolism of the organs and tissues concerned.

Brook-street, W.

THE CLINICAL ESTIMATION OF THE ALKALINITY OF THE BLOOD.[1]

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IN attempting to estimate the alkalinity of the blood one is confronted by certain initial difficulties. These are dependent partly upon the physical characters of the blood and partly upon its chemical composition. The albuminous nature of the blood forbids its titration with a mineral acid, and its red colour interferes with the precise detection of the final change of colour of the indicator. Further, the blood is not homogeneous, but consists of solid particles, the corpuscles, suspended in a fluid medium, the plasma. In determining the alkalinity of the blood as a whole regard must be had to both these elements. By the separation of the corpuscles it has been found that these contain more alkali than the serum; any method, therefore, which does not ensure thorough breaking down of the corpuscles, with consequent liberation of the alkaline salts therein contained, cannot give accurate results. The peculiar chemical composition of the blood gives rise to even greater difficulties. It must be borne in mind that the blood is not by any means a simple chemical solution, but, on the contrary, consists of a highly complex mixture of salts in various and varying combinations. Of these salts, two, the bicarbonate of sodium and the disodic phosphate (Na_2HPO_4), are chiefly responsible for the alkaline reaction. In both of these salts there is still present an atom of hydrogen replaceable by metal, yet both react alkaline to litmus. Hence the curious paradox which has been emphasised by Drouin, that the blood is chemically an *acid* fluid, but reacts as alkaline to ordinary reagents. Apart from this, the colour reagent employed to show when the neutral point is reached has a considerable influence upon the result obtained. Thus we find that solutions of monobasic salts of phosphoric acid—e.g., NaH_2PO_4—are *acid* to litmus, but neutral to phenol-phthaleine; dibasic salts of the same acid—e.g., Na_2HPO_4—are *alkaline* to litmus, but, unless in strong solution, also neutral to phthaleine. Now, as such salts are always present in the blood the result we obtain will obviously depend upon whether we employ litmus or phthaleine as our indicator. In addition to this CO_2 is always present in the blood, and when liberated by another acid escapes and affects litmus feebly or not at all. In the case of phosphoric acid compounds, on the other hand, the acid liberated is able to act upon litmus *as* acid. Hence a blood, the alkalinity of which is chiefly due to phosphate of soda, will give an apparently lower alkalinity than one which contains a larger proportion of sodium bicarbonate. Nor does this exhaust the list of difficulties. It has been specially insisted upon by Meyer[2] that we have no right arbitrarily to select a certain reagent—e.g., litmus—and exclude from the category of acids all substances which fail to give a red reaction with it. Thus some alcohols, some amido acids, and some amides are chemically acids but do not react as such to litmus, and these may exist in the blood. Some of the higher fatty acids, also, when liberated are insoluble in water and so cannot affect the litmus.

When these difficulties are considered one might at first be tempted to abandon as futile any attempt to gauge clinically the alkalinity of the blood. The physical difficulties can, however, be overcome by suitable methods, while as regards the chemical objections it must be confessed that many of them are rather theoretical than practical. It is true that the blood contains chiefly acid salts; it is also true that it contains real acids. The *balance* of the reaction, however, is always in favour of what is commonly understood as alkalinity. Our methods should be able to show us to what extent fluctuations in this alkalinity occur, although we cannot expect them to inform us as to what substance it is which, by its presence or absence, occasions the fluctuations. Those substances which, while chemically acids, do not react as such to litmus are not likely to be present in the blood in such amounts as materially to affect our results. After these preliminary observations we may turn now to the consideration of the methods which are at our disposal for estimating the alkalinity of the blood. I shall confine myself in this article to methods of clinical applicability. Obviously we cannot justly demand from such a method very great accuracy. Like all clinical methods, it must needs be more or less of a compromise between accuracy and simplicity. Zuntz[3] was one of the first to attempt the estimation of the alkalinity of the blood. He employed titration with phosphoric acid, but his method demanded too much blood to be of use clinically. The same criticism applies to the method of Lassar,[4] who employed tartaric acid instead of phosphoric. Liebreich[5] devised a method for showing the alkaline reaction of the blood by means of plates of plaster-of-Paris impregnated with litmus. When a drop of blood was placed upon the plate the plasma soaked in and affected the litmus while the corpuscles remained on the surface and could be wiped off without obscuring the result. Renzi[6] employed this method to estimate variations in the alkalinity, but as he was guided solely by the intensity of the blue colour produced his results were not accurate. Lépine[7] and Canard[8] were the first to make extensive observations in man by the titration method, but employing comparatively large quantities of blood. It was not till a decade ago that Landois[9] introduced a titration method which required only easily obtainable quantities of blood. As this is the type of the titration method now in use it demands a word of description. The principle of the method consists in preventing coagulation of the blood by means of a saline solution, while all the alkali present is neutralised by titration with tartaric acid, litmus paper being employed to show when the neutral point is reached. Sulphate of soda solution is prepared, and to this a $\frac{7{\cdot}5}{1000}$ solution of tartaric acid is added in graduated amounts. Thus Solution 1 will contain $\frac{10 \text{ acid}}{100 \text{ sulphate}}$; Solution 2 $\frac{20 \text{ acid}}{90 \text{ sulphate}}$; and so on up to a solution which contains $\frac{100 \text{ acid}}{10 \text{ sulphate}}$. Equal quantities of one of these solutions and of the blood to be examined are sucked up into a fine pipette, mixed in a watch-glass and the reaction tested with sensitive litmus paper. If the solution is still alkaline the next strongest acid solution is taken, and so on till the result is neutral. This method has been largely employed by von Jaksch,[10] who drew the blood with cupping glasses, and by Peiper,[11] who found the latter unnecessary. The method has found its most recent advocate in Drouin,[12] whose thesis constitutes the most comprehensive monograph on the

[1] This article contains the substance of an essay which was awarded the Edinburgh University London Club Prize in August, 1895.

[2] Meyer: Archiv für Experimentale Pathologie und Pharmacie, Band xvii., 1883.

[3] Zuntz: Centralblatt für die medicinischen Wissenschaften, 1867.

[4] Lassar: Archiv für die gesammte Physiologie, Band lxviii.

[5] Liebreich: Berichte der deutschen chemischen Gesellschaft, Band i., p. 48, 1868.

[6] Renzi: Virchow's Archiv, Band cii., 1888.

[7] Lépine: Gazette Médicale, 1879.

[8] Canard: Thèse, Paris, 1878.

[9] Landois: Réal. Encyclopédie, iii. 1884.

[10] Von Jaksch: Zeitschrift für klinische Medicin, Band xiii., 1888.

[11] Peiper: Virchow's Archiv, Band cxvi., 1889.

[12] Drouin: Hémo-alcalimétrie et Hémo-acidimétrie, Thèse, Paris, 1892.

alkalinity of the blood which has yet appeared. He has improved slightly upon the method of Landois by using a $\frac{n}{30}$ oxalic acid solution to mix with the sulphate of soda. With a special dropper he places in the first glass one drop of acid and nine of sulphate, the second receives two of acid and eight of sulphate, and so on up to the tenth. An equal amount of blood is then added to each glass and rapidly titrated, delicate litmus paper being used to indicate in which glass the reaction is neutral. The method is, on the whole, simpler than that of Landois and quite as accurate. Now all these methods have the drawback of being somewhat elaborate and of demanding for their proper application a considerable amount of blood, of apparatus, of practice, and of time. It was, therefore, much to be desired that a simpler method might be found. Such a method Haycraft and Williamson believed to have discovered and described it in the proceedings of the Royal Society of Edinburgh for 1888. Since then their method has been recommended for use by various works dealing with clinical methods.[13] It depends upon the fact that if a drop of blood be placed upon the surface of a neutral *glazed* litmus paper the glaze prevents the corpuscles from entering the interstices of the paper while the plasma is able to soak in, and on wiping away the drop the blue colour due to the alkalinity of the plasma is distinctly seen. The fact that the alkalinity of the blood could be demonstrated in this manner was pointed out some years ago by Zuntz and by Schäfer. It occurred to Haycraft and Williamson that by treating litmus paper with different strengths of acid and then glazing them one would get a series of papers of graduated acidity, one of which would just be neutralised by the alkalinity of normal blood. All the papers more strongly acid than this would remain unaltered on wiping away the drop of blood, while all the less acid papers would exhibit a blue reaction, which would be the more strongly marked the less acid the paper.

This method seems at first sight to be a great advance upon the titration procedures. It has the undoubted merit of simplicity and can be very rapidly carried out. Haycraft stated that by its means "he had found the reaction of the blood to vary as greatly as that of the urine." Hence it would seem to answer every requirement. I prepared a series of ten papers according to the instructions of the authors of the method. Sulphuric acid was used to acidify the papers. The strongest paper (No. 1) was soaked in a normal solution of the acid. No. 2 was soaked in a half normal solution, and so on up to 10, which was soaked in a decinormal solution. Having determined which paper just reacted to normal blood I made a series of observations on the alterations in the alkalinity in disease by means of the papers. Of course, the results afforded could only be approximate, as there is a considerable difference between, say, a half normal and a one-third normal solution of sulphuric acid, but in this respect the method would not compare unfavourably with the titration method of Landois. Nor did I find that there was much force in the objection—the only one I have hitherto seen advanced against the method—that there is difficulty in determining exactly which *is* the paper which just gives a blue reaction with the drop of blood. It was only later, on coming to compare my results with those of other workers obtained by the titration method, that it was found that while in many diseases the results coincided, in others marked discrepancies occurred. This was specially noticeable in the case of the anæmias. I invariably found that the alkalinity of the blood in anæmia as tested by the method of Haycraft and Williamson was above normal, and often apparently to an excessive degree. Now if there be one fact upon which all those who have employed the titration method are agreed it is this—that in anæmia the alkalinity of the blood is reduced. How, then, is this contradiction in the results afforded by the two methods to be explained? It might at first be asserted that the results of the two methods are not strictly comparable. It is obvious that by the glazed litmus paper method the alkalinity of the *plasma* is what is ascertained. The corpuscles being left on the surface of the paper the alkali contained in them does not get the chance of affecting the litmus. By the titration method, on the other hand, the corpuscles are more or less completely broken down and the alkali which they contain is liberated and so arrives at estimation. But this explanation will not suffice, for the difficulty was to discover why a method which takes no account of the corpuscles should yet give an apparently higher alkalinity than one which estimates the alkali of all the components of the blood together. In searching for another explanation it occurred to me that the more watery condition of the blood in most anæmias might be the cause of the different result yielded by the two methods. The more watery the blood is the more readily will it percolate into the glazed litmus paper and the more readily will the acid be neutralised. That this supposition was correct was easily proved by experiment. If one takes fifty c.c. of glycerine and mixes thoroughly with it one c.c. of a normal solution of caustic soda the mixture will be found to react to about paper 3 of our series. If now one adds to the mixture twenty c.c. of water and again mixes the solution will now be found to react to a considerably more acid paper. That is to say, the solution, although really more dilute than before, is apparently more strongly alkaline—a paradox which is only to be explained by the greater ease with which the more watery fluid percolates into the paper. This difficulty cannot be got over by allowing the drop of blood to remain all the longer on the paper because, as will be seen, the alkalinity of the blood diminishes rapidly after its withdrawal from the body. Seeing, then, that the results afforded by the glazed litmus paper method are so dependent upon the consistency of the blood (a by no means constant factor) I consider that it is not a trustworthy clinical method and must be discarded. We are, therefore, driven back upon the use of the titration method. We have seen that this method tells us the total amount of alkali in the blood, not the alkalinity of the plasma only. But it will only give us this result if properly carried out. Loewy[14] has shown that unless the blood be titrated slowly and at the body temperature all the corpuscles are not broken down and the total alkalinity is therefore not detected, and he contends that, owing to neglect of this precaution, previous results have given too low an estimate.

I turn now to a consideration of the practical results which the estimation of the alkalinity of the blood has afforded. Before drawing any conclusions as to the alterations of the alkalinity due to disease we must, of course, make ourselves acquainted with the variations which occur under physiological conditions. The first point to emphasise regarding the alkalinity of healthy blood is its great constancy. This constancy is the more remarkable when one reflects upon the varying amount of alkali which must be entering the blood stream at different times. The only circumstances in which it is appreciably altered are during the ingestion of food and after severe muscular work. The alkalinity is considerably increased in the former condition and decreased as the result of the latter. The increase after meals is synchronous with the appearance of the "alkaline tide" in the urine, and the latter is to be regarded as the expression and result of the former. The increased alkalinity is probably to be explained, in part at least, by the absorption of alkaline salts from the food. In part it may be due to the discharge into the circulation of sodium carbonate or bicarbonate resulting from the production of hydrochloric acid from sodium chloride in the secreting cells of the stomach. The effect of severe muscular work is to cause a fall in the alkalinity of the blood, this being probably due to the production of considerable quantities of lactic acid by muscular metabolism. Turning attention now to the condition of the blood in disease we find that the constancy above referred to is maintained in a very remarkable manner. There are comparatively few diseases in which the alkalinity of the blood is appreciably altered. By what mechanism the balance of alkalinity is maintained we know not, but this we know—that it is a remarkably perfect mechanism. Whenever the amount of alkali in the blood rises much above the mean the excess appears to be promptly excreted by the kidney. In the reverse direction, however, the mechanism does not seem to act so well. Considerable quantities of acid products can accumulate in the blood without being got rid of. Hence reduction of alkalinity is very much more frequently found in disease than increase. One may say, indeed, that an increased alkalinity of the blood is, with perhaps one exception, never found as the result of disease. Now, there are many morbid conditions in which one would not expect *a priori* to find any alteration of the alkalinity of the blood, and this expectation is usually found to be justified. There

[13] See von Jaksch's Clinical Diagnosis, third edition, 1894; Finlayson's Clinical Manual, &c

[14] Loewy: Archiv für die gesammte Physiologie, Band lviii., 1894.

are others in which, from what we already know of their pathology, some alteration might naturally be looked for. The latter may usually be referred to one of four groups: (1) all diseases associated with profound alterations of the general metabolism—e.g., fevers and cachexias; (2) diseases of the blood itself; (3) some toxic states—e.g., jaundice, uræmia, and advanced diabetes; and (4) some so-called diathetic conditions—e.g., gout and rheumatism. Now, as a matter of fact, as far as our observations have hitherto gone, the above list includes practically all the diseases in which any marked alteration in the alkalinity of the blood has been found to occur. I shall consider briefly each group by itself.

1. Speaking generally, one may say of fever as a process that it is accompanied by a diminution of the alkalinity of the blood. This diminution, though very constant, is not invariable, and is found to be roughly proportionate to the height of the fever but not to its duration. It is most probably occasioned by the entrance into the circulation of imperfectly oxidised katabolic products of an acid nature, which are laid hold of by the alkaline salts in the blood and so neutralised. We do not know that any of the general symptoms of fever can be referred to this reduced alkalinity or that it would be at all advisable to make it the basis of any special line of treatment. Yet the reduced alkalinity of the blood is undoubtedly, *per se*, unfavourable to tissue vitality. It has been shown by Castellino and Cavazzani [15] that alkaline liquids stimulate the protoplasmic movements of leucocytes while contact with liquids poor in alkali seems to render them torpid. It is interesting to collate with this the further fact observed by Fodor [16] that an increased alkalinity of the blood renders animals much more resistant to organisms. The bearing of these observations upon the pathology of fever is obvious. In cachexia, however induced, the blood is also less alkaline than normal, but this may be due in part, at least, to the poverty of blood with which this condition is associated.

2. I have stated in an earlier part of this article that in almost all the anæmias the alkalinity of the blood is reduced. This is true of simple anæmia, of pernicious anæmia, and of leucocythæmia. The causes of the reduction are probably several. Seeing that the red cells contain a considerable quantity of alkali any reduction in their number must of itself entail a corresponding reduction in the total alkalinity of the blood. This explanation is supported by the fact that in cases of pure chlorosis—i.e., where the hæmoglobin is alone reduced—the alkalinity of the blood is not diminished, may, indeed, be increased. Deficient oxidation of the tissues no doubt plays a part just as it does in fever. Uric acid has been found in the blood in anæmia by von Jaksch [17] and Spiro [18] has demonstrated the presence of lactic acid in leucocythæmia. It is also possible that in anæmia the mineral constituents of the blood are reduced just as the cellular are, the blood being really more watery than normal. Here, again, I would point out that the diminished alkalinity of the blood cannot be made a reason for the administration of alkalies in anæmia. Iron and arsenic are both drugs which tend to reduce rather than to increase the alkalinity of the blood, yet the utility of both in anæmia is undoubted and the mineral acids are probably more helpful than alkalies.

3. In all the toxic conditions mentioned above the alkalinity is also diminished. In jaundice this is to be attributed to the presence of bile acids in the blood. In uræmia the reduction is often very marked, and this is the more noteworthy as renal disease does not by itself lead to any diminution of alkalinity. The fact is an additional argument, were one needed, against the ammonia theory of uræmia. In diabetes the alkalinity tends to be always low, but is especially reduced if coma supervenes. Its occurrence is accounted for by the entrance into the circulation of oxybutyric acid.

4. I come finally to certain "diathetic" conditions in which the investigation of the alkalinity of the blood is of peculiar interest. I refer to gout and rheumatism. In the former the alkalinity of the blood is stated to be lower than in any other disease, but this is just what we would expect from the excess of uric acid in the circulation. The old "acid" theory of acute rheumatism lends to the determination of the alkalinity of the blood in that disease a special importance. Is the alkalinity reduced? The reply is definitely and almost unanimously in the negative. Pfeifer, von Jacksch, and Drouin have all failed to find any reduction, and with their observations those of the present writer agree. This is confirmatory of the results of special analyses, Garrod [19] having failed to find any uric acid in the blood in acute rheumatism, while Salomon [20] has proved the absence of lactic acid. In chronic articular rheumatism and in rheumatic arthritis the alkalinity would appear to be sometimes reduced, but this may be due to accompanying anæmia.

I may refer lastly to the effects of drugs on the reaction of the blood. These bring out very clearly the existence of the regulating mechanism. It has been found almost impossible to affect the reaction of the blood for any length of time by the administration of acids or alkalies by the mouth. Hoffmann fed pigeons on substances yielding only an acid ash, but found that alkalies were retained in the blood to form salts with the acids. This occurs even when more acid is administered than would suffice to neutralise all the alkali in the body. Lassar [21] got only slight effects from the administration of even large quantities of alkalies and acids, and his results have been confirmed by those of other observers. A few of the so-called "alteratives," such as arsenic and phosphorus, have been found to produce some diminution of alkalinity, probably by lessening tissue oxidation. In carbonic oxide poisoning a considerable reduction occurs for the same reason; in this case the presence of considerable quantities of lactic acid in the blood has been demonstrated (Araki). Our comparative inability appreciably to alter the reaction of the blood by means of drugs is rather remarkable, although therapeutically somewhat disappointing.

I may now, in closing, briefly summarise the contents of this article. We have seen that the clinical determination of the alkalinity of the blood is rendered difficult alike by physical and by chemical considerations, that the existing methods have been devised with the object of surmounting these difficulties, and that these methods are for practical purposes only two in number—the titration method (Landois) and the glazed litmus paper method (Haycraft and Williamson). I believe I have been able to show that the results furnished by the second of these methods are unreliable, inasmuch as the reaction is determined largely by the viscidity of the blood examined, a factor of great inconstancy. The titration method is, therefore, alone available. The results of this method apply to the alkalinity of the blood as a whole, but only when titration is carried out slowly and at the body temperature. We are thus left in ignorance as to how much of the alkali in any given case is contained in the blood-cells and how much in the plasma. We have seen, further, that the clinical application of this method has brought into prominence one striking fact regarding the alkalinity of the blood—its constancy. That this constancy is maintained both in health and disease and is apparently the result of a regulating mechanism. The alterations in disease are practically always in the direction of diminution of alkalinity, induced probably by the entrance of acid substances into the circulation. Thus, lactic acid is present in leucocythæmia, carbonic oxide poisoning, &c., uric acid in gout and in anæmia, oxybutyric acid in diabetes, and bile acids in jaundice. In addition to these conditions we saw that the alkalinity is reduced in uræmia, in all febrile states, and in anæmias with the exception of chlorosis. The reasons of the reduction in these different diseases I have briefly discussed. Lastly, we have seen that, owing to the existence of the regulating mechanism, we are practically unable materially to influence the reaction of the blood by the administration of drugs. As the number of available observations by different workers is now fairly large, and covers nearly every known disease, we are entitled to conclude that not much more will be made out by existing methods, and on reviewing the practical results of the information acquired one is bound to confess that they are rather meagre. These results certainly throw side lights, even if of a negative character, on some pathological questions, but as regards direct clinical bearing it is, I think, evident that the information to be derived from the estimation of the alkalinity of the blood in any given case is hardly commensurate with the expenditure of time and trouble which such estimation entails.

Edinburgh.

[15] Castellino and Cavazzani: Gazetta degli Ospitale, 1833.
[16] Fodor: Centralblatt für Bakteriologie und Parasitenkunde, 1895.
[17] Von Jaksch: Ueber Uric Acidæmie. Deutsche Medicinische Wochenschrift, 1890.
[18] Spiro: Zeitschrift für Physiologische Chemie, Band i.
[19] Garrod: Reynolds's System, first edition.
[20] Salomon: Jahresteicht für Thierchemie, Band x.
[21] Lassar: Archiv für die gesammte Physiologie, Band lxxiv.

FIVE CASES OF INJURY TO THE EYE FROM CHIPS OF STEEL.

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CASE 1.—In the spring of 1894 I was consulted by a man aged forty-five years who gave the following history. He had been struck nine years previously with a piece of steel, which entered the right eye and destroyed all vision. The tension of the eye was normal and the pupil was occupied by what was presumably a cataract. He had never had the slightest pain in this eye or the fellow till five days before I saw him, when on hammering an old gas-pipe a piece of rust flew into his left eye. No wound was made by this, but when he first came to me he had iritis and nothing else—neither corneitis nor conjunctivitis. The anterior chamber was perfectly clear. The iris did not act to light and was of a different colour from the iris of the right eye. He was placed under vigorous treatment for a week, when, as the eye made no progress towards recovery, I advised the removal of the blind and injured eye. On examining this eyeball after enucleation I found embedded in the centre of the vitreous chamber a piece of steel seven-sixteenths of an inch long and one-sixteenth of an inch broad. It had a firm fibrous capsule in which it lay. In a week's time the sympathising eye was apparently quite well and has remained so ever since.

CASE 2.—I was asked to examine an old man recently for the purpose of finding out whether he should undergo a cataract extraction. I first examined him by the aid of a lamp, and looking at his left eye I observed, "Why, you have a fly in your eye." "No, sir, that is a piece of steel." I inquired how long it had been there and he replied, "Twenty-five years." And, sure enough, there was a piece of steel sticking into his eyeball just over the ciliary region. I felt it with the probe and became convinced of the truth of his statement, and I need hardly say that I did not advise that any operation of extraction should be done either to the injured eye or to the uninjured, which had also become cataractous, as I supposed, from sympathetic ophthalmia. Moreover, there was a very bad perception of light in either eye.

CASE 3.—On Nov. 30th, 1895, a man aged sixty-two years came to the Truro Infirmary complaining of his vision. The right eye had been wounded by the point of a knife forty years previously; a portion of steel having broken off remained in the organ. He went to a medical man, who said he had removed the object, but the patient never saw the piece, from which I concluded that it had been pushed in instead of being withdrawn. Examining him ophthalmoscopically under atropine I saw the foreign body in the centre of the pupil, but behind it. The lens was perfectly clear and the foreign body appeared to be embedded in the front of the vitreous. It did not change its position with movements of the eye, but it effectually obstructed all central vision. He had hypermetropia of the other eye, which I rectified with spectacles, and advised him to carry the foreign body to his grave with him. At any rate, I refused to be a party to its removal, although I did suggest that he should allow me to clear up all uncertainties by submitting to enucleation. This he wisely declined.

CASE 4.—A young man came to me in August last, being sent by Dr. Davy of Penzance, and was said to have a piece of steel in his right eye. It was plainly visible as a bright sparkling chip lying on the surface of the iris midway between the pupillary margin and the periphery in its lower segment. After instilling eserine I took him to the Truro Infirmary, where by means of the magnet I succeeded in withdrawing the foreign body through a small hole which I made in the cornea, enlarging the wound through which the piece had entered, making it just large enough to admit the point of the magnet. No aqueous escaped, so its withdrawal was accomplished without any difficulty, and the eye in a few days was perfectly normal in every respect, though when I operated, twenty-four hours after receipt of injury, mischief was commencing in the iris as shown by circum-corneal injection and slight discolourration of the iris.

CASE 5.—Another patient came about the same time as the preceding, having been hit by a piece of steel in the left eye, where it remained. His age was about fifty-five. It was perfectly visible, being about one-eighth of an inch long, and was sticking in the sclerotic about a quarter of an inch below the circumference of the cornea just over the ciliary region. I did not feel it with a probe, for not having any instrument at hand by which I could draw it out I feared that I might be the means of pushing it into the interior of the globe; and it seemed to be underneath the conjunctival opening it had made, so that there was nothing to take hold of. I took him to Truro Infirmary, where the magnet could be used and where all preparations had been made, and when I opened the eyelids to commence operation the piece of metal was no longer visible. I endeavoured to find it with the point of the magnet, of course not placing it in the interior of the globe, and not finding it I desisted from any further attempt at its removal. In the course of a few weeks all damage to the eye had disappeared, but one day on examining it under homatropine I saw two oblong opacities apparently on the surface of the lens and corresponding in position to the direction which the foreign body had apparently taken. I have since examined this man and I cannot find any trace of injury to the interior of the eye. Of course he has the scar in the conjunctiva and sclerotic.

Truro.

CASE OF TETANUS.

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[Introduced by Professor ALEX. OGSTON.]

IN the month of July, 1894, a little girl aged twelve years was brought by her mother to Mr. Herbert Ley, the medical officer in charge of the Magila Station of the Universities' Mission to Central Africa, German East Africa. She complained of pain in the throat, and when told to open her mouth for examination refused. The medical officer thought that it was obstinacy on the part of the child and came to the conclusion that she was shamming, the throat seeming normal. He, therefore, prescribed a dose of salts. (I may mention that the little patient had to walk nearly a quarter of a mile to and from her own house, and did so quite unaided.) She would not take the draught prescribed by Mr. Ley, and even when force was applied refused to open her mouth. Two days after this Mr. Ley was asked to visit the girl and found her exhibiting all the symptoms of tetanus. There were a board-like feeling about the recti, stiffness of the muscles of the neck, and frequent spasms accompanied by sardonic grins. The following history was obtained. The patient had been quarrelling with a companion, and the pair were about to come to blows when the guardian of girl No. 2 came out of her house, sided with her, and struck the patient with her open palm on the back of the neck. No pain was felt at the time and the child played about as usual for two full days. At the end of this period the pain and stiffening of the throat appeared. The family history was as follows. Her father died from chronic nephritis, elephantiasis, and tuberculous disease of the lungs. Her mother and brother were quite healthy. It is the custom for African children to have their heads shaven, and Mr. Ley and myself thought that a wound might have been caused by the knife, razor, or bit of broken glass used for this purpose. Every part of the body was carefully examined, but no scratch or wound could be discovered. A day after we saw her she died. Now arose a very interesting medico-legal point. Did the child die from the blow? The case was tried before the priest in charge of Magila, a native priest, and another African. The charge brought against the woman was witchcraft. Mr. Ley gave his evidence, which was that the girl died from tetanus and that a blow had been given. The woman received the benefit of the doubt and was not taken before the German authorities, but had to pay a fine of eighty rupees as compensation.

Aberdeen.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CASE OF TRICHOPHYTIC ONYCHOMYCOSIS OR INFECTIVE GROWTH INVOLVING THE MATRIX OF THE NAILS.

BY THOMAS OLIVER, M.D. GLASG., F.R.C.P. LOND.,
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IN December last I was consulted by a young woman nineteen years of age on account of elevation of the nails of the right thumb and forefinger, which were so lifted from their bed that they continually caught against objects and were thus the cause of considerable pain and annoyance to her. The nail of the left thumb was similarly affected, but to a slighter degree. There was a lengthy longitudinal split of the nail of the right thumb slightly internal to the middle line. The matrix of this and the other nails already mentioned was extremely swollen; it was six or seven times the normal thickness. It looked like a pad of hard tissue, was extremely brittle, and was seated under the anterior half of the nail towards its inner aspect. In the development of the disease the first thing observed by the patient was projection of the matrix in front of the nail for a short distance as a hard dense substance, then by degrees the nail became lifted upwards. At this stage severe pain of a throbbing character had been experienced. This was before the nail split. The anterior half of the nail now became pale and the nails of the affected fingers brittle and somewhat distorted. When I first saw the patient there was no difficulty in recognising the disease as a mycotic growth involving the matrix of the nail, for the disease had extended to other fingers; she was otherwise quite healthy. She was not suffering from any skin affection, nor was there any form of ringworm amongst other members of her family. How she became affected still remains a mystery. She was ordered iron and arsenic capsules; the matrix of the nails was scraped, the dead portions of nails removed, and unguentum hydrargyri nitratis mitius inserted twice daily. In addition the finger ends were thoroughly scrubbed with liquor hydrargyri bichloridi; and later, as progress was slow, the fingers were steeped in weak bichloride of mercury and spirit solution. On two or three occasions I applied strong liquor potassæ to the dense hard matrices; this softened them, and I was able to scrape away large portions of the matrix for a considerable distance under the nail, thus facilitating the application of the germicides already mentioned. As the outermost third of the nail was now dead it was readily removed a day or two afterwards. Within three or four weeks of treatment fairly vigorously maintained an illness which was not only painful but extremely annoying and rapidly extending to the other fingers was brought to a successful issue. Portions of the matrix removed by scraping and of the nails were carefully examined microscopically for fungi, but beyond observing a hyaline condition of the brittle matrix, and here and there a few large altered epithelial cells, no micro-organisms were detected. The history, the mode of invasion of the illness, and its yielding to the particular treatment leave little doubt that the case was one of ringworm of the nails, or tinea unguium.

Newcastle-upon-Tyne.

ARREST OF HÆMORRHAGE IN ESTLANDER'S OPERATION.

BY C. HAMILTON WHITEFORD, M.R.C.S. ENG., L.R.C.P. LOND.

I HAVE been greatly struck by the very free loss of blood which often accompanies this operation as usually performed. This hæmorrhage, though not absolutely dangerous to life, must greatly retard the convalescence of a patient already weakened by a long illness. To considerably lessen this hæmorrhage the following method is of service. After exposure of the thoracic wall to be removed the intercostal arteries are compressed by ligatures on each side of the pieces of ribs to be removed. An aneurysm needle is passed unthreaded from the middle of one intercostal space, entering the pleural cavity, to the space above, and brought out close to the upper border of the rib above. The needle is then threaded and withdrawn. This ligature when tied contains below the rib a bunch of intercostal muscle, which acts as a plug in the intercostal groove, thereby obliterating the vessels. The entire thickness of the chestwall between the two rows of ligatures is then removed close up to the ligatures, the bleeding being confined to the divided ribs, where time is no object; periosteal flaps to cover in the cut ends of rib tend to prevent subsequent necrosis, probably due to infection of the bone by the pus from within, which I have seen occur in several cases. The ligatures should be of material which is easily absorbed to prevent the possible necessity of future removal.

Plymouth.

PRELIMINARY NOTE ON A NEW CRANIAL REFLEX.

BY WALKER OVEREND, M.A., M.D. OXON., B.SC. LOND.,
PHYSICIAN TO THE TOTTENHAM HOSPITAL; LATE RADCLIFFE TRAVELLING FELLOW.

WHEN the skin of one-half of the forehead is gently tapped with the edge of an ordinary wooden stethoscope a twitch in the lower eyelid of the same side may be observed. This is obviously due to the implication of a certain strand of fibres in the orbicularis muscle. If the percussion be made a little stronger the upper portion of the orbicularis also takes part in the response, while severe percussion elicits in addition a simultaneous movement of the opposite lids. Slight tapping in the middle line of the forehead is followed by twitchings on both sides. In many instances, however, and particularly after some amount of education or when the skin of the forehead is abnormally sensitive, gentle stroking alone is sufficient to evoke the reaction. The signal area is embraced by three lines: one running to the hair in the middle line from the root of the nose, the second drawn along the eyebrow to the external angular process, and the third completing the triangle and passing from the outer extremity of the second line to the upper extremity of the first. In general terms, however, it may be said that the region involved is the skin covering the frontal bone. It may therefore be termed the frontal reflex, although in chorea and certain cranial neuralgias accompanied by hyperæsthesia of the cutaneous surface the movement may be produced by tapping the skin as far back as the parietal eminence. The skin supplied by the infra-trochlear nerve is also capable of inducing the reflex. I believe it is a true skin reflex and not a periosteal reaction. It is not produced by communication of physical vibrations, since the area appears to be definite, and severe percussion sometimes fails altogether. It is not due to the shadow cast by the finger or stethoscope (light reflex) since it occurs among the blind. The motor path is identical with that of the conjunctival reflex; the sensory channels lie in the supra-trochlear and supra-orbital divisions of the frontal nerve, while the centre is probably located in the mid-brain. Stimulation of one particular portion of the area is followed by a contraction of the corrugator with elevation of the eyebrow. In moderately severe cases of hemiplegia, attended with hemianæsthesia, the frontal reflex is absent on the paralysed side during the first few days after the seizure, although the patient may be able to close the eye perfectly; but if the skin of the normal half of the forehead be stimulated the orbicularis muscles of both sides contract. The absence of the reflex, therefore, appears to be a result of the anæsthesia. As far as I can ascertain the above reflex has not been hitherto described.

Edmonton.

SUPERNUMERARY FINGERS AND MALFORMATION OF THE FŒTAL HEAD.

BY BARTHOLOMEW LANGRAN, L.R.C.P. EDIN., L.R.C.S. IREL.

IN December, 1892, I attended a woman in her eighth confinement. The child was a female and well developed, but had a supernumerary finger attached by a thready pedicle to

the ulnar border of each hand. The same woman's fourth child, when born, had one extra finger similarly attached. The father was born with a supernumerary finger on each hand, the cicatrices left after their removal being still plainly visible, and his sister was born with two supernumerary fingers and an extra toe.

I have also seen two cases of malformation of the fœtus precisely similar to that described by Mr. Craig in THE LANCET of Feb. 8th. One of them I observed whilst attending at the Coombe Hospital, Dublin, and the other whilst engaged in private practice in Devonshire.

Liverpool.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, Mb. iv. Proœmium.

ST. MARY'S HOSPITAL.

CASES ILLUSTRATING THE DISEASES AND THE SURGERY OF THE APPENDIX VERMIFORMIS.

(Under the care of Mr. HERBERT W. PAGE.)

THESE five instructive cases are in continuation of a former series by the same surgeon published in THE LANCET of Aug. 4th, 1894. In the first three operation was undertaken on account of suppuration in the region of the appendix, and it will be noted that in the first two when the abscess was incised from the iliac region no attempt was made to remove or even to find the appendix, yet recovery ensued. This is in accord with the usual experience of surgeons, the intensity of the process of inflammation being sufficient to close any opening which may have formed. The third case is very instructive and Mr. Page's remarks will be attentively read. Of the cases of recurring appendicitis the appendix was removed after the fourth attack in No. 4, whilst in No. 5 it is difficult to tell from the history the number of attacks from which the woman had suffered. Both cases were, therefore, such that firm adhesions of the appendix to surrounding parts might have been expected; yet the adhesions were slight, and the operations were completed without much difficulty. This is in great contrast to the dense adhesions sometimes found and which occasionally prevent the removal of the appendix. We are without sufficient evidence as to the formation of abdominal hernia after operations undertaken for the relief of symptoms due to appendicular disease, but Dr. Hawkins[1] has pointed out that it is an important consideration when operation is recommended for the removal of the appendix for recurring attacks of inflammation.

CASE 1. *Acute abscess from perforation of appendix; concretion found in abscess; rapid recovery.*—A man aged twenty-five years was admitted to hospital on Oct. 18th, 1894, and gave a history of having had an attack of pain in the right inguinal region twelve months before, with vomiting and obstruction of the bowels. He was under treatment for a week and took medicines. He recovered completely and continued well until Oct. 15th, when he felt sick at his dinner, and after the meal was over he began to have pain of a dull aching character in the right ilio-inguinal region. The pain increased and became acute and in the evening he was violently sick several times. From that moment he became steadily worse and his bowels were confined. Flatus was, however, passed occasionally. On admission the abdomen was seen to be uniformly distended and below the level of the umbilicus there was no noticeable movement in respiration. The abdominal wall was decidedly tense, and he complained of acute pain and tenderness on the slightest touch. Pressure could be borne least well at a spot an inch internal to, and on the same level as, the right anterior superior iliac spine—at the spot, in fact, which is often called MacBurney's. No distinct tumour could be felt because of the abdominal rigidity. His temperature was below 100°F., his pulse was 72, and he did not seem very ill. On Oct. 20th, before operation, the surface hyperæsthesia had much diminished and the diaphragm moved, but deep inspiration hurt him in the right inguinal region. The resistance here was decidedly more marked than in other parts of the abdomen. As soon as he was anæsthetised distinct deep-seated fulness could be felt and the area was unquestionably dull on percussion. The abdomen was opened in the usual place, the point of acute tenderness being taken as the centre of a short oblique incision, and a quantity of stinking pus was evacuated from a localised cavity; and with the pus came a concretion of the size of a small horsebean. Progress was uninterrupted until Nov. 5th, when it became necessary to explore and give exit to a small loculated collection of pus which had been keeping up a feeling of discomfort in the wound; after this the cavity closed rapidly, and the patient was discharged well on Jan. 5th, 1895. It is a noteworthy fact that on the day after the operation his bowels were opened spontaneously four times.

CASE 2. *Acute suppuration from perforation of appendix; symptoms simulating general peritonitis.*—A lad aged fourteen years was admitted to hospital on Nov. 24th, 1894, so extremely ill with symptoms, as they seemed, of general peritonitis that he was taken to the operating theatre as soon as Mr. Page saw him. On the 12th of the month the lad had been suddenly seized with acute pain in the right inguinal region. He vomited and a medical man saw him. He was constipated and medicine was given him. A lump was said to have been felt at the site of the pain. Hot poultices were applied and in four days the symptoms passed off and he was able to return to work. The lump, however, remained. On the 19th he had another attack, accompanied by sickness and constipation; but the pain on this occasion spread from the right side, where it was worst, to the whole abdomen. Poultices were again applied and enemata were administered, but they were retained and were without result. He continued in much the same state until the 23rd, although the lump was thought to be rather smaller. On the 24th he was said to have become very much worse, and he was then brought to the hospital. When Mr. Page saw him, soon after his admission, the boy had a pinched, anxious, abdominal expression and was obviously very ill. On inspection the abdomen was seen to be uniformly distended; it was exquisitely tender and did not move the least in respiration. He complained of severe pain. With the exception of the right inguinal region, which was rather more tense and resistant than other parts, the abdomen was everywhere tympanitic. Sickness had been worse during the night and he was absolutely constipated. All the symptoms pointed very strongly to general peritonitis, and Mr. Page said it was a question whether the abdomen ought not at once to be opened in the middle line, but remembering that in other cases the symptoms of general peritonitis had been as marked as in this case, and had really been due to acute local suppurative peritonitis alone, he should certainly be guided by the examination under an anæsthetic, and that if there was decided fulness in the right inguinal region he would make an opening there. As soon as general anæsthesia allowed of thorough examination it was obvious that there was a large deep-seated resistant swelling in the right inguinal region extending towards the middle line. A three-inch incision was therefore made through the abdominal wall at a point an inch and a half internal to the anterior superior iliac spine and running obliquely inwards and downwards. The deeper muscles were soon seen to be infiltrated with inflammatory exudation, and on opening the peritoneum the parts first exposed were found adherent to each other. Gentle exploration with the finger soon gave exit to foul-smelling pus, and the manner of the flow suggested that it came from a circumscribed space rather than from the general peritoneal cavity. No attempt was made to explore the abscess. No concretion was discovered and the appendix was not seen. A drainage-tube was inserted. The boy bore the operation well and expressed himself as feeling better in the afternoon. He passed a good night, was but little sick, and his bowels acted spontaneously several times. No food was given by the mouth until the following day. On the 26th he was not quite so well, was sick several times, and complained a good deal of abdominal pain. Hot fomentations relieved him. Abdominal distension and tenderness were, however, very much less, and it was not thought necessary to make any further exploration. After this day he began to improve and both

[1] Diseases of the Vermiform Appendix.

local and general conditions went on favourably. On Dec. 11th there was an adverse change, for his temperature, hitherto normal, rose to 101° F. and he had much abdominal pain. For the next few days he was very ill, was in much pain, and frequently sick, and mouth-feeding had to be stopped. The abdomen also was again slightly distended and tympanitic. There was much difficulty in securing action of the bowels, and the administration of enemata gradually succeeded in bringing away a quantity of old hard fæces. This episode in his progress towards recovery was indeed due to bowel disorder, possibly because he had had too much food too soon, but it did not interfere with the state of the wound, the steady lessening of discharge from it, and its gradual closure. The patient was perfectly well when he left the hospital on Jan. 31st, 1895.

CASE 3. *Acute abscess from perforated appendix; symptoms suggestive of perforated ulcer of the stomach; unrelieved by operation; death.*—A young woman aged twenty-one years was admitted into a medical ward on May 25th, 1895. A fortnight before she had been seized with pain in the abdomen, chiefly in the right iliac region. There was no sickness and the pain soon disappeared. Four days before coming to the hospital the pain had returned with greater severity. There was then much vomiting but no blood. On admission the girl was evidently very ill. The abdomen was motionless, distended, and tympanitic; the apex of the heart was felt in the third interspace, and the area of liver dulness was much diminished. The conclusion having been come to that the patient's symptoms were due to a perforation of the stomach Mr. Page was sent for on the morning of the 26th and opened the abdomen in the middle line above the umbilicus. Some serous fluid escaped, but there were no signs of peritonitis, and the stomach was perfectly healthy. At this stage of the operation the girl's condition seemed too bad to warrant any further exploration, although Mr. Page remarked at the time that there was a suspicious sense of resistance in the right iliac region, and with the finger in exploring the abdomen he thought that a barrier of adhesions could be felt in the cæcal environment. The wound was therefore closed and the patient returned to bed. She rallied from the operation and was comparatively free from pain afterwards, while the abdomen became decidedly less distended. No definite swelling was even then to be felt in the iliac region, but inasmuch as her temperature remained above 101° F. the propriety of exploring the appendix region was considered. Unhappily, this was frustrated by her becoming rapidly worse on the night of the 30th and she died on the morning of the 31st. At the necropsy a large circumscribed abscess was found in the right iliac region. A perforation was found at the extremity of the appendix and there was a concretion lying loose in the abscess. The appendix was a long one, and was adherent to the transverse colon at the right of the middle line. There was no general peritonitis.

CASE 4. *Recurrent attacks of appendicular colic; removal of appendix in a period of quiescence; rapid recovery.*—A girl aged eighteen years was admitted to hospital under the care of Dr. Lees on July 7th, 1895. With the exception of rheumatic fever some years ago she had always enjoyed good health. In February, 1894, she was suddenly seized with pain in the right side of the abdomen and on the next day she was unable to sit up. She was sent to the hospital and was an in-patient for five weeks. She was free from trouble for twelve months and had a second attack in February, 1895, which kept her in bed for four weeks. She was constantly sick during this attack, although there had been no vomiting during the first. In April she had a third attack, but of less severity. She was now admitted with her fourth attack. This had begun suddenly on July 29th, while she was in a train, with sharp pain in the right side some distance below the ribs, whence it seemed to shoot right across the stomach. She lay in bed at home for a week before coming to the hospital and then complained of sharp pain in the right flank. Her temperature was 100·5° F. There was great tenderness in the right iliac fossa, and an area of dulness on percussion could be mapped out in this region. Her right thigh was flexed. Opium was ordered internally and an ice-bag to be applied to the site of abdominal tenderness every alternate two hours during the day. The pain and tenderness rapidly diminished, and although on the evening of the 8th her temperature was 103° she was considerably better on the 9th and continued to make progress until the 14th, when a sharp return of pain called for the reapplication of the ice-bag which had been discontinued on the previous day. There was no constipation, but an enema was administered occasionally. The notes of Aug. 2nd record that she had now perfectly recovered, and that it was thought desirable to transfer her to the surgical wards with a view to removal of the vermiform appendix, which had clearly been the cause of her several attacks of abdominal illness. Accordingly, on Aug. 3rd the patient was put under an anæsthetic, and the abdominal wall being thereby relaxed unquestionable resistance and fulness to a slight degree were to be felt in the right iliac fossa in comparison with the other side. The abdomen was opened by the same incision as in the other cases. The appendix was found without difficulty, and the thin adhesions which joined its edge to the cæcum having been divided it was seen to be two inches long, and was firm, rigid, and swollen from its tip to a point about a third of an inch from its cæcal end, where it was distinctly narrowed. A ligature of twisted silk having been tied round it on the proximal side of the constriction it was then removed. The stump was cleansed by scraping and washing with a 1 in 5 carbolic solution. The wound was closed by tiers of sutures. The after-history was altogether uneventful, and the temperature was normal throughout until her discharge on Sept. 4th. Section of the removed appendix showed that its walls were greatly thickened and that at the point of visible narrowing there was stricture of its lumen. No obvious cause of this constriction was found, nor was there any trace of a concretion. The girl has remained in good health since she left the hospital and has been free from all discomfort.

CASE 5. *Recurrent attacks of appendicular colic; removal of appendix; recovery.*—A woman aged twenty-six years was admitted to hospital on Nov. 18th, 1895; she had for a period of ten years been subject to occasional attacks of abdominal pain, tenderness, sickness, and constipation, which had kept her in bed for periods varying from ten to thirty days. Eighteen months ago she had a bad attack, but the character of it does not appear to have been suspected, for treatment was directed to dealing with dysmenorrhœa by dilatation of the cervix and curetting the uterus. This did her no good, and when Dr. Handfield-Jones saw her in an attack which began on Nov. 17th, 1895, he suspected that the appendix was really the cause of it, for he felt a distinct lump in the appendix region and could find no disease of the female organs. Accordingly, he sent her to St. Mary's Hospital, where further observation confirmed his diagnosis by the existence of high temperature, abdominal distension, local pain and tenderness in the cæcal region, with marked rigidity of the abdominal wall, and the history clearly pointed to similar attacks before. By Dec. 11th things had become completely quiet, and on that day the abdomen was opened by the usual oblique incision. The appendix was found with difficulty, as it lay below and behind the cæcum. It was nearly three inches long and felt thick, rigid, and tense, with a very thick mesentery. This and some neighbouring adhesions bent it on itself. It was ligatured and removed close to its origin. It contained some drops of semi-fæcal pus and showed evidence of an obstruction in its lumen close to the site of section. Its walls, and more especially the mucous coat, were greatly thickened. Recovery was uninterrupted, and the patient was allowed to be up after spending four weeks in bed. The sense of persistent discomfort or pain which she had all along felt in the iliac fossa completely disappeared from the moment of the operation, and her general health has in consequence much improved.

Remarks by MR. PAGE.—The history of Case 1 differs somewhat from that which is commonly heard in cases of abscess from perforation of the appendix in the fact that there had been an attack twelve months before the patient came to the hospital. That attack, of course, may have had nothing whatever to do with his appendix; but, on the other hand, it may have been due to a sort of abortive attempt on the part of the concretion to make its escape, or there may have been a concretion at that time which escaped after a struggle into the cæcum, and the one which was found was really of later formation. In persons prone to the formation of appendix concretions it is conceivable that one or more may from time to time escape by a harmless route before one at length chances to do so by perforation and sets up acute suppuration in the neighbouring peritoneum. The point

of interest in Case 2 was the singular way in which the symptoms simulated those of a diffuse general peritonitis from septic infection, and had it not been that under an anæsthetic the indications of local mischief were so well marked the abdomen would almost certainly have been opened in the middle line. Within a few days of this case being under my care I heard of another exactly like it, in which, unfortunately, the opening was made in the middle line, and in the search for the local inflammation which had been due to perforated appendix the general peritoneum became infected and the patient died. It is a good rule, therefore, to search for indications of local mischief under an anæsthetic and to be guided by them, but the surgeon will not be guided aright unless he appreciates the fact that acute local inflammation may induce symptoms commonly regarded as diagnostic of general peritonitis. A median opening in this instance would very probably have led to disaster. There can be little doubt that the case was one of perforation of the appendix, followed by local inflammation and suppuration. It was the boy's first attack, and was characterised by all the severity which the symptoms in such cases usually present. Let it be noted that as soon as the local condition was relieved the bowels acted spontaneously, a tolerably sure indication that the cause of the constipation had been removed and that the chief danger was overpast. I look on Case 3 as one of the most deplorable cases I have ever had to deal with, but it must not be withheld from publication. The diagnosis of perforated ulcer of the stomach having been made, it would, perhaps, have been difficult for any surgeon not to act upon it, more especially as the great tympanites seemed to point to air in the peritoneal cavity; but had I followed my own rule, unfettered by any previous diagnosis, I am satisfied that the iliac resistance, albeit not very marked, would have led me to open the abdomen there. And I now regret that I did not proceed to explore in this region as soon as the opening in the middle line had failed to discover the supposed cause of the symptoms. The girl's life might have thereby been saved. Apart, however, from these mistakes both in diagnosis and treatment the case very powerfully illustrated the manner in which a local acute circumscribed abscess from appendix perforation may simulate a general peritonitis from a totally different cause, and again the lesson is enforced that the appendix should never be forgotten in all cases of the kind. Case 4 was one of the simplest and seemingly least dangerous forms of appendix disease, and most amenable to successful treatment by operation in a period of quiescence. The appendix, for some reason or other, had come to have its lumen narrowed, and, therefore, it became liable to be distended by its own retained mucous secretion. Inflammation ensued in and around it, the condition was aggravated by interstitial swelling, and thence arose various symptoms due to appendicular colic, to a recurrence of which the patient must have been exposed so long as the appendix remained. Individually and collectively these cases may be regarded as fairly typical of the various consequences of disease of the appendix. Increasing experience shows that the affections of the appendix which call for surgical intervention fall into two main classes—those in which there is perforation by a concretion and those in which the appendix has had its lumen temporarily obstructed by kink or cicatricial contraction so as to cause retention of mucus or fæces, which thereby lead to inflammation in and around it. The former cases are the more serious as regards danger to life, and they call for early operative measures in order to evacuate local collections of pus; the latter are to be dealt with in periods of quiescence when the disturbance of adhesions is less likely to be dangerous and aseptic conditions can be more readily secured. This important fact, moreover, must never be forgotten, that the local inflammations which are the result of appendix disease may in their symptoms very closely simulate those of a more diffuse peritonitis, and that in all doubtful cases of abdominal mischief, especially in young persons, it is well to bear the appendix in mind. The aphorism in regard to hernia, "When in doubt operate," may well give place in cases of serious abdominal disorder to this, "When in doubt think of the appendix." On this point I have nothing to add to the remarks which were made in connexion with the former series of cases, for the later cases which I have seen, both in hospital and private practice, have only confirmed the opinions then expressed both as to diagnosis and the need for surgical interference.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Malignant Tumour of the Spermatic Cord.—Syphilitic Testes in a New-born Infant.—Diffuse Cystic Disease in Both Breasts.—Concretion in a Galactocele.—Insidious Marrow Infection in Mammary Carcinoma.—Three Cases of Ulcerative Appendicitis.

AN ordinary meeting of this society was held on March 3rd, Dr. NORMAN MOORE, Vice-President, being in the chair.

Mr. J. H. MORGAN exhibited a Malignant Tumour together with the Left Testis and Spermatic Cord from which it was growing. The patient, aged thirty-nine years, had noticed it ten weeks before admission after a slight strain. It presented an irregularly nodulated surface with a free projection at the lower extremity and lay in the inguinal canal, being attached at its base to the cord in that region. The tumour had no other connexions and was removed entire, the cord being ligated above at an apparently healthy spot. No enlarged glands were detected, but a portion of the external oblique was attached to it. The patient recovered quickly from the operation. On examination of the tumour it proved to be a scirrhus-like mass arising in the inguinal canal and involving the cord secondarily and surrounding the vas deferens. The thickening of the cord was due to extensive infiltration of the lymphatics with cancer cells. The testis and epididymis were not affected. The microscope showed it to consist of spheroidal cells occupying the meshes of a trabecular network. There is no record in the Pathological Society's Transactions of any identical tumour in this situation.—Mr. SHATTOCK and Dr. KANTHACK said that they regarded the microscopical specimens shown as sarcoma.—Mr. BOWLBY remarked on the rarity of malignant tumours of the cord.—Mr. MORGAN, in reply, said that the tumour clinically resembled a sarcoma rather than a carcinoma. It was referred to the Morbid Growths' Committee.

Mr. H. B. ROBINSON showed the Testes of an infant aged four months at death. The infant had well-marked congenital syphilis and had suffered from snuffles with a rash on the nates and face. Before death the child presented the typical "old man" appearance, and there were fissures at the angles of the mouth and sores on the face and buttocks. Both testes were of stony hardness and were enlarged and smooth. There was much thickening of the tunica albuginea and of the septa. Microscopically there was diffuse cellular infiltration, which in places had developed into firm fibrous tissue.—Mr. ROBINSON showed for Mr. PITTS a second specimen from a child aged five years in whom there was no definite history of congenital syphilis, but microscopical examination confirmed its syphilitic nature.—Dr. MOORE remarked on the very few illustrations of the internal morbid anatomy of congenital syphilis to be found in the London museums.

Mr. H. B. ROBINSON likewise brought forward a specimen of Diffuse Cystic Disease of both Breasts which had been removed from a woman aged forty-nine. She had had six children, and there was no family history of malignant disease. In March, 1894, she noticed a lump in the right breast; there was no pain and no discharge from the nipple. On examination the whole right breast was found to be enlarged and indurated, with evidence of multiple cysts. There were no definitely enlarged glands in the axilla. The left breast presented much the same features. The right organ was amputated on Aug. 20th, 1894. On section it showed a general fibrotic condition, riddled with cysts varying from a microscopical size to that of a walnut, and containing the usual greenish brown mucoid fluid; there were no intra-cystic growths. On microscopical examination changes were found which were compatible with chronic interstitial mastitis, and, in addition, there was evidence of carcinomatous change. The patient was, therefore, urged to have the left breast amputated, and this was done on Nov. 28th, 1894. This breast was found to be riddled with cysts and microscopically showed evidence of chronic interstitial mastitis, but there was no malignant disease. Mr. Robinson, after referring to the literature of the subject, said that, pathologically speaking, he thought that every cyst developed

in relation with chronic inflammatory change. Whether the cysts were single or multiple was purely a matter of accident. He believed that there was a causal relation between the cyst formation and the malignant growth, and these cases of cystic breast should, therefore, be treated radically.—Dr. NORMAN MOORE mentioned a case which he had seen in the last three weeks. The patient, an elderly woman, presented a tumour in the left breast, and on examination was found to have a small tumour in the neighbourhood of the pylorus. He wondered if there were any connexion between the two.—Dr. SNOW said that these cysts continued for years without pain; they began before and continued during the period of devolution, and he did not regard them as inflammatory.—Mr. ROBINSON, in reply, said that he regarded the extensive development of connective tissue as an indication of chronic inflammation.

Mr. WATKINS-PITCHFORD showed a specimen of Encysted Fatty Concretions in a Breast affected by Chronic Mastitis. The patient was a married woman aged forty-six and was admitted to the Bridgnorth and South Shropshire Infirmary in May, 1894. She complained of "some lumps growing in the left breast." She had been married twenty-two years, and during that time had given birth to ten children, all of whom she suckled till sixteen or eighteen months of age. Twelve months before admission, when suckling her youngest child, then twelve months old, she noticed that the milk came with difficulty from the left breast and that some small hard lumps had appeared. She continued to suckle the child for another six months. The patient was emaciated and dyspeptic. The left breast was tender; no secretion could be squeezed from the nipple; in the lower part of the organ were two or three wedge-shaped masses of indurated gland tissue. Embedded in these and well outside the areola were three or four hard nodules of rounded outline; retraction of the nipple was produced by dragging centrifugally on these nodules; puckering of the skin could not be induced, nor was the skin adherent; there were one or two distinctly enlarged but soft glands in the left axilla. The right breast exhibited some signs of chronic mastitis, but was free from nodules. The breast was amputated and the axilla cleared out by the surgeon under whom the case had been admitted. The patient was now in good health. The affected portion of the breast presented appearances which were in the main those typical of chronic mastitis; there were numerous minute cysts containing milk in various stages of inspissation. Embedded in the gland tissue were several round nodules of cheesy consistence; the largest of these had been preserved for inspection. Each nodule had occupied a distinct cavity lined with smooth membrane and possessing dense, fibrous walls. The nodules were shelled out with the greatest ease after incision of the cyst wall. Whether these fatty concretions had been formed within smaller ducts or terminal alveoli could not be determined. The enlarged axillary glands presented the appearances of simple induration. The weight of the largest concretion was ten grains; it consisted entirely of fat, no other proximate physiological principle being evident. The microscopic appearance was that of amorphous greasy masses. It was difficult to explain why such concretions should not occur more commonly in cases of chronic mastitis. He attributed their formation to the continued secretion of milk under the stimulus of prolonged lactation after many of the ducts had been obliterated by the contracting fibrous tissue of chronic mastitis. The more solid constituents of the milk had been retained and impacted in the cyst cavities whilst the fluid part had filtered itself away into the lymphatic channels of the gland.

Mr. TARGETT showed a Concretion in a Lipoma of the Breast. He thought it a degenerative lesion in the lipoma and not formed in the ducts. He had recently seen a case similar to that shown in which the concretions were of the size of hazel nuts and fell out of the cysts when they were opened.—Mr. SHATTOCK regarded Mr. Targett's specimen as one of fat necrosis. The concretions in Mr. Watkins-Pitchford's case arose from inspissation; they were in reality nothing but human butter.

Dr. HERBERT SNOW read a paper on the Insidious Marrow Infection of Mammary Carcinoma. He exhibited a portion of the left humerus, with microscopic sections from this, and from a lumbar vertebra, of a woman dying with carcinoma of the right mamma, and made some remarks on the development and course of this peculiar marrow infection, which took place in all cases of ordinary mammary carcinoma in the female with very rare exceptions. In average breast-cancer the marrow received deposit concurrently with marked enlargement of the axillary lymph-glands—i.e., within three months of inception. But in the "atrophic" class the infection might be delayed many years. The humerus on the side of the disease was usually the bone first implicated, and the sternum next in order. The special 'sternal symptom" was a slowly developed prominence at the junction of the upper and middle portions (photographs exhibited). It was not to be looked for until after the lapse of twelve months, generally within the second year; was painless, and gave rise to actual tumour formation only in 1 or 2 per cent. It might be simulated by natural conformation, was pathognomonic of marrow deposit only when developed under observation and when associated with gnawing pains in the arm, scapulæ, and loins. After an operation the marrow deposit might give no trouble whatever for five or six years; it then emitted metastases into the blood current, and the patient succumbed to "recurrent" visceral disease. The condition ceased to be "insidious"—i.e., generated tumour, fracture, or (spinal) distortion—only in 2·4 per cent. of mammary carcinomata. It accounted for the prolonged liability of breast cancer to "recurrence," accentuated the functions of the marrow as a hidden nidus for malarial and other microbes, with no palpable symptom, throughout long periods of time; and tended to prohibit the extensive operative measures sometimes invoked. Reference was made to his researches published in THE LANCET of March 7th and 14th, 1891, and the *British Medical Journal*, vol. i., 1892; also to a paper by Mr. Stephen Paget in THE LANCET of March 23rd, 1889, as summarising previous knowledge on the subject.—Mr. C. BEADLES agreed that these deposits were frequently to be found in the humerus and, less frequently, in the ribs and vertebræ. He quoted some illustrative cases to show the method of dissemination of carcinoma in this manner.—Mr. SHATTOCK said that it was a matter of common knowledge that the bones were often affected with secondary growths in cancer.—Mr. BOWLBY thought that Dr. Snow deserved credit for emphasising the fact that secondary deposit often took place in bone marrow without giving rise to a definite tumour.—Dr. SNOW, in reply, said that the lumbar vertebræ might be used as a test in breast cancer; secondary cancer would generally be found in them, but in uterine cancer this was not usually the case.

Dr. WILLIAM HUNTER described three cases of Ulcerative Appendicitis which had recently come in succession under his notice illustrating the very varying pathological features and clinical course which this condition presented. The first case was that of a boy aged thirteen, admitted into Charing-cross Hospital under the care of Dr. Green for abdominal uneasiness, diarrhœa, intermittent fever, and sweatings. He subsequently developed great enlargement of the liver with hepatic tenderness, and systolic bruits over the heart changing in character. The condition found was slight thickening of the appendix, which was bound down to the back of the cæcum, and ulceration at one part with limited inflammation and sloughing of the adjacent tissues. There was no general peritonitis, but there was marked suppurative pylephlebitis, the portal vein and its branches within the liver being filled with pus; there were numerous pyæmic abscesses in the liver and slight recent ulcerative endocarditis of the mitral valve. The second case was that of a stout woman aged thirty-seven, admitted with acute general peritonitis under the care of Mr. Boyd. On operation a fæcal abscess cavity containing eight ounces of pus was opened into over the appendix and an inch and a half of greatly thickened and inflamed appendix of the thickness of the thumb removed, along with a fæcal concretion of the size of a plum-stone which was found in the abscess cavity. She died the following day. There was found marked thickening of the appendix, which was embedded in a mass of thickened tissues around the lower end of the cæcum; the appendix was over three and a half inches in length, and close to the cæcum there was an ulceration, surrounded by dark sloughing tissues, in which had lain the fæcal concretion. This ulceration formed the posterior boundary of the abscess cavity, which was opened into on operation. The abscess cavity communicated freely with the proximal as well as the distal end of the appendix. The mucous membrane lining the distal end of the appendix was in a dark sloughing condition. There was extensive suppurative

peritonitis and localised collections of pus were found in the right hypochondrium and between the small intestines and the transverse colon. The third case was that of a child aged six years admitted with a history of abdominal pain and tenderness under the care of Dr. Abercrombie. There were tenderness and rigidity of the abdominal walls over the lower part of the abdomen, with intermittent fever. The condition found was an extensive collection of pus in the lower part of the abdomen, with secondary collections in both hypochondria. The appendix lay with its free end attached to a portion of the ileum over the brim of the pelvis. Its distal end was extensively ulcerated, dark in colour, and almost completely gangrenous, and separated from the proximal end which was healthy. In all three cases there was ulceration due probably to the impaction of a fæcal concretion in the appendix, although in only one of the three cases could the concretion be found. The effect of the impaction had varied in the three cases, and the variations were influenced by two chief factors—the original situation of the appendix, whether in immediate relation to the peritoneal cavity, where it lay over the brim of the pelvis, or behind the cæcum. In one case the effect of ulceration was to place the peritoneal cavity in connexion with the cavity of the appendix and through it with the cæcum, with the result that extensive suppurative peritonitis had been set up. In the second event the result was to excite inflammation and thickening of the appendix, with corresponding perityphlitic changes as in Case 2. In this case the disease had obviously, from the size of the appendix and the thickening around, run a lengthened course. The occurrence of phlebitis, as in the first case, was, so to speak, an accident liable to occur in any case of ulcerative appendicitis; otherwise the first case belonged to the class of what might clinically be termed the *perityphlitic*, as distinguished from the *peritoneal* varieties of the disease.—Dr. NORMAN MOORE said that he had recently witnessed a necropsy in which the end of the appendix was found open, a pus track was found leading up to the mesentery, and abscesses were found in the liver; one of these had burst superiorly, leading to the formation of a sub-diaphragmatic abscess.—Mr. DOUGLAS DREW mentioned another case in which a patient had been operated on for hepatic abscess and one had been drained. A few days later the patient died and post-mortem the left lobe of the liver was found riddled with small abscesses, the quadrate lobe being also affected. The vermiform appendix was found matted down by adhesions, but there was no active inflammation. The portal vein was found to be thrombosed and this thrombosis was traced down to the region of the appendix.—Dr. NEWTON PITT referred to a case he had seen of a small child with a sub-diaphragmatic abscess which originated in connexion with perityphlitis. With regard to the nature of the concretions the evidence was rather that some of them were formed secondarily, being composed of masses of leucocytes with epithelial débris.—Dr. HAWKINS (Reading) referred to a case of pelvic abscess with left empyema and recent vegetations on the mitral valves, which he had seen in association with perityphlitis.—Dr. ROLLESTON confirmed the statement that it was not uncommon to find no concretion at all in these cases.—Dr. HUNTER, in reply, said he thought that in most cases the presence of fæcal matter in the tube was the cause of a catarrhal condition which induced the concretion. The small concretion shown was a mass of hard fæces.

The following card specimens were shown:—

Dr. PARKES WEBER: (1) Sarcoma of Both Kidneys of a Child; (2) Localised Fatty Change in Liver.

Mr. H. B. ROBINSON: Lymphangioma in Parotid Region.

Dr. HUNTER: (1) Pyæmic Abscess of Liver; (2) Cancerous Thrombosis of Portal Veins.

Dr. WALSHAM: Tuberculous Ulceration of the Ileum, with perforation.

Dr. CYRIL OGLE: Acute Pancreatitis, with fat necrosis.

Mr. KANTHACK and Mr. STEPHENS: Alkaline Serum Agar as a New Culture Medium.

Mr. C. S. WALLIS: Tumour from Ischio-rectal Region of a Dog.

Mr. J. H. TARGETT: Concretion in a Lipoma from the Breast.

Dr. VOELCKER: (1) Absence of Gall-bladder; (2) Rupture of Aorta.

CLINICAL SOCIETY OF LONDON.

Idiopathic Muscular Atrophy in a Boy.—Accidental Vaccinia.—Contraction of Forearm.—Congenital Dislocation of Hip replaced by Operation.—Congenital Dislocation of Hip with Peculiar Features.—Ectopion Vesicæ.—Double Facial Paralysis.—Osteitis Deformans.—Multiple Lipomata.—Congenital Enlargement of Forearm.—Tumour of Median Nerve.—New Method of dealing with Cut Extensor Tendons.

AN ordinary meeting of this society, devoted to the exhibition of clinical cases, was held on Feb. 28th, Dr. BUZZARD, President, being in the chair.

Dr. J. WALTER CARR showed a case of Idiopathic Muscular Atrophy in a boy aged ten years, who was the youngest of thirteen children, of whom ten were living. There was no family history of paralytic affection of the muscles. Two years ago the boy gradually became weaker, the weakness being chiefly of the legs. The muscles of the face, shoulder-girdle, and upper arm were also much wasted, but the tongue and ocular and masticatory muscles were normal. There was a good deal of lordosis, which disappeared when the patient was sitting down. The weakness of the legs suggested some relationship with pseudo-hypertrophic paralysis.—The PRESIDENT said that it was an interesting case, exhibiting symptoms of a disease usually considered to be a family disease, but here a sole member was affected. He had previously pointed out the possibility of these cases being of an infective nature, and the family distribution would in that case only point to a common source of infection. The fact that the patient had suffered from measles a year previously favoured the idea of infection.

Dr. ABRAHAM showed a child aged three years who presented two ulcers, one on the eyelid and the other on the chin, on a hard base, with the characteristic appearance of accidental vaccination. She was said to have been vaccinated as an infant, but there were no marks on the arms. She had been sleeping with a younger brother who had been successfully vaccinated ten days previously, and probably that was how she was inoculated.

Mr. BATTLE showed a boy aged twelve years who last year fell down and Fractured both Bones of the Forearm. It was put up in splints, but six weeks later, when the splints were removed, there was a large slough of the anterior surface of the forearm with contraction of the flexors, so that he was at present unable to extend the wrist or the fingers. He had been under treatment at St. Thomas's Hospital for this condition for about five months, but so far no improvement had been obtained. The contraction was not influenced by anæsthesia. The forearm and hand had become atrophied, but the electrical reactions were all normal except in the case of the interossei.—Mr. W. G. SPENCER pointed out that this was the condition to which Volkmann had given the name of "ischæmic paralysis," under which name he suggested this case ought to be described.—Mr. ARBUTHNOT LANE said that he had treated two cases which were similar, but not so bad. He had adopted multiple section of muscles and tendons with a tenotome.—Mr. OPENSHAW said that he had seen two similar cases at the Orthopædic Hospital; in both multiple divisions with a tenotomy knife were practised. In another case, under Mr. Tubby, the contraction followed cicatricial shortening of the muscle belly itself.

Mr. OPENSHAW showed a case of Congenital Dislocation of the Hip, which had been replaced by operation. The patient was a girl aged three years who came to him presenting the typical appearances of congenital dislocation of the hip. He cut down into the joint, removed a portion of the iliac bone at the upper and back part of the acetabulum, and got the head back into the cavity. The shortening, which was previously one and a half inches, was thereby reduced to three-quarters of an inch, and she could walk with a slight limp. The movements of the joint were free in almost every direction, it being four months since the operation. He pointed out that unilateral cases were more favourable for operation than when the dislocation was bilateral. The head could not very well be replaced in the cavity before two and a half years of age on account of the condition of the acetabulum.

Dr. J. TAYLOR and Mr. BALLANCE showed a case of Congenital Dislocation of the Hip with Peculiar Features. The

patient was a woman aged twenty-three years, who came under Dr. Taylor's care for epilepsy. He noticed that she was lame, and on examining her he found there was (probably) congenital dislocation of the hip. Mr. Ballance concurred in this view. It was peculiar in that there was very great mobility of the joint, this being associated with abnormal mobility in the corresponding knee as well as in the opposite knee. The limb was much shortened with corresponding lateral spinal curvature. There was much grating on moving the femur, and it sometimes seemed to slip into a hole as if there were the remains of an acetabulum.—Mr. WALLACE said that after seeing this patient walk and noticing how easily she did so he was disposed to congratulate her on having escaped operative interference.—Mr. GORDON BRODIE recalled the case of a lad with a similar condition who could walk several miles without inconvenience, and under these circumstances he, too, was inclined to doubt the desirability of operative interference.—Mr. BATTLE said that the instance under consideration resembled cases after injury to the epiphysis where there was consecutive atrophy of the head and upper part of the neck of the bone.—The PRESIDENT suggested that the condition might possibly be the remains of an attack of infantile paralysis.—Dr. TAYLOR said that that idea had occurred to him, but he had not been able to elicit any information pointing to any such attack.—Mr. OPENSHAW recalled an interesting case of Genu Recurvatum, a condition which was attributed to faulty intra-uterine position, and he pointed out that most cases of congenital dislocation of the hip occurred in children born with a breech presentation, observing that this patient presented two of the features attributed to faulty intra-uterine position. Before two and a half years of age Lorenzo now preferred to apply extension, but between that age and ten he still advocated this operation. He did not think it was a justifiable operation after ten years of age.—Mr. TARGETT pointed out that the head of the bone having been outside the cavity would explain an absence of roundness.—Dr. TAYLOR, in reply, said that the child, the eldest, was born after a tedious labour, but the mother did not know whether the presentation was abnormal.

Mr. H. B. ROBINSON exhibited a case of Ectopion Vesicæ. The patient was a child aged four years who presented the affection in its simplest form.

Mr. TURNEY next brought forward a case of Double Facial Paralysis. The patient was a woman aged twenty-five years, with no history of rheumatism or of any particular disease, who after exposure to a draught three months ago developed facial paralysis on the left side. Six weeks later, the condition on the left side remaining permanent and without conscious exposure, paralysis suddenly supervened on the other side of the face as complete as in the first instance. There was actual y complete loss of expressional and volitional movements on both sides, but no affection of taste or hearing.—The PRESIDENT observed that such cases were very rare, though he had seen one following influenza.

Dr. H. G. MACKENZIE showed a case of Osteitis Deformans in a man aged forty-eight years who dated his illness from a fall eight years ago. He presented marked bowing of the tibiæ and femora, with much thickening of the bones. There was marked deformity of the thorax, and the skull was very "bossy," its size being increased upwards as well as antero-posteriorly. Since December of last year he had on three occasions experienced a snap followed by pain and local swelling, but no crepitus, twice over the ribs, and on the last occasion in the leg. In view of the resemblance of this affection to osteomalacia he had tried a course of red bone marrow, but though the treatment seemed to have relieved the painful manifestations the condition of the bones was apparently unaltered.

Mr. BIDWELL showed a case of Multiple Lipomata. The patient was a strongly built man twenty-three years of age who had a tumour in the palm of one hand and on the neck ever since he could remember. Seven years ago something was done to the tumour on the neck, and soon after several other tumours appeared, and he now presented numerous tumours, varying in size from a pea to a walnut, all over the body. The skin over the large tumours was freely movable.—Dr. ABRAHAM said he had made sections of one tumour and found chiefly very vascular fibrous tissue, with signs of inflammation. He did not think it could be described as a case of molluscum fibrosum.—Mr. CLEMENT LUCAS said some of the larger tumours were probably fatty, but the smaller ones appeared to be fibrous.

Mr. MAKINS showed a case of Congenital Enlargement of the Forearm in a young woman twenty-eight years of age, who presented marked enlargement of one forearm. The affection (nævoid?) appeared to involve only the deeper veins. He asked whether it was a simple venous nævus or one involving the lymphatics. She complained of pain and numbness in the limb and the swelling was entirely confined to the forearm, not extending into the hand.—Mr. CLEMENT LUCAS said he had no doubt it was a case of veno-lymphatic nævus. He referred to a patient, a girl between twelve and fourteen years of age, who presented this condition, there being a large spongy mass extending from the thigh to the ankle. He excised it in part very freely, and a year later she returned in order that he might repeat the operation in respect of the remainder.

Mr. F. C. WALLIS showed a girl aged twenty-two years on whom he had operated for a Tumour of the Median Nerve last January. The tumour was two and a half inches long. It began just at the wrist joint, going along the course of the nerve up the arm. The hand showed all the signs of paralysis of the median nerve, and was not unlike a claw. The tumour, which was fibrous, was removed, and the two ends of the nerve united by sutures, the hand being flexed to a right angle. The hand was fixed in this position for seventeen days and then gradually straightened. The subsequent course of the case was one of gradual but uninterrupted recovery, and the hand was quite as useful as it ever had been.

Mr. WALLIS also showed a case in which he had operated for Cut Extensor Tendons. The patient was a lad aged nineteen years, who four months ago cut the extensor tendons of the ring and little fingers of the left hand whilst opening a window. When seen three months after he had no power to extend the two outer fingers. The cut tendons could be felt under the skin. An incision was made over these and the proximal ends of the tendons sought for, but were not found. The two cut tendons were then stitched to the common extensor tendon of the middle finger and the wound closed. The wound healed up perfectly and the boy could now fully extend all the fingers, so that it was difficult to say that there was any difference from the normal.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.

Cardiac Dyspnœa.—Exhibition of Specimens.

AN ordinary meeting of this society was held at the Great Northern Central Hospital on Feb. 13th, Mr. CHARLES KING being in the chair.

Dr. ALEXANDER MORISON read a paper on Cardiac Dyspnœa, in which he dealt with the following points:—1. Respiration has an important influence upon circulation: inspiration and expiration, the alternate action of the thorax and abdomen aiding, the former chiefly the venous and the latter the arterial circulation. 2. In addition to systole and diastole, gravitation and the spiral or screw shape of the projected and travelling blood column are important factors in the propulsion of that fluid. 3. Cardiac dyspnœa is modified in character by the situation and nature of the causal lesion, tricuspid regurgitation being a more powerful factor than pulmonary valvular disease in the right heart, except when the lesion has been suddenly established. 4. There are important differences in the conditions underlying dextral and sinistral cardiac dyspnœa, due mainly to the different relations which the two sides of the heart bear to the lungs. 5. The essential cause of cardiac dyspnœa is neither pulmonary congestion nor defective aeration, but a reflex transmitted from the stimulated heart to the accelerant fibres of the pneumogastric nerve. In this Dr. Morison agreed with Dr. D. B. Lees. 6. The key to the explanation of Cheyne-Stokes respiration which he preferred to name "tachy-bradypnœa" is the exhaustion of the patient and blunting of the cardio-respiratory reflex.—Dr. HARRY CAMPBELL agreed with Dr. Morison as to the very important *rôle* the respiratory movements have on the normal circulation, and made no doubt that the forced respirations which so often succeed a period of cardiac inactivity, as, for instance, a fainting fit, served to help the heart to recover its balance. He referred to the occurrence of dyspnœa so frequently at night, and felt inclined to think that this is greatly due to the shallowness of respiration

during sleep. The dyspnœa of maids-of-all-work, of mountain climbers, &c., also appeared to be due, to some extent at least, to the fact that severe exertion caused the respiratory muscles to contract irregularly during the effort, with the result that the aid to circulation produced by the normal respiration was interfered with. The dyspnœa produced by high arterial tension was also a form of interest. Dr. Campbell finally remarked on the dyspnœa associated with great dilatation or hypertrophy—e.g., in the case of "cor bovinum" in children—and said that the dyspnœa in such cases was doubtless due to the mechanical conditions produced by the heart occupying so much space and interfering with the proper play of the lungs.—Dr. LEONARD GUTHRIE felt inclined, while keeping Dr. Morison's explanations well in view, to rest comfortably on the old teaching that the cause of dyspnœa was in all cases the same, although the preliminary conditions bringing the cause into play may well vary. Whether in the case of an athlete after a race or a bedridden case of heart disease, the reason that the person became dyspnœic was that by over-exertion or the equivalent cause his blood became wanting in oxygen, and as a consequence the medullary respiratory centre was stimulated and set the mechanism into play whereby the oxygen equilibrium was re-established. In the case of the cardiac patient the mechanism could not be brought into play so easily. Even the movements that produce orthopnœa are common to all the conditions of dyspnœa. He thought that the influence played by gravity on the circulation was a factor which ought to be kept in mind. In bed a large heart will fall backwards and so impede the respiratory movements, causing the patient to sit up, and so relieve the breathing, and at the same time the extraordinary muscles of respiration can be brought into play.

Dr. FREYBERGER showed an interesting specimen of Congenital Malformation of the Heart. A boy eleven months old had been admitted to hospital suffering from basic meningitis. On admission there was a loud systolic murmur over the pulmonary conus and an equally loud sawing systolic murmur at the apex. There was only occasionally slight cyanosis. There was no clubbing of fingers or toes, and no periostitis of the tibiæ. At the necropsy the following conditions were found. Two descending venal cavæ, the right normal, the left running down on the left side of the œsophagus and entering the coronary sinus; there was a thin left innominate vein and a left vena azygos double the width of the right, which entered the left descending cava, the left vena intercostalis suprema being a tributary of this abnormal azygos vein. The aorta, one inch wide, was inserted on the extreme right, whereas the pulmonary artery—a narrow vessel without any conus whatever—was pushed to the left and backward and upward, edged in between the wide aorta and the small auricular process of the left atrium. The heart itself was inserted at a right angle with the ends of the body. The distended right auricle and the hypertrophied right ventricle formed the anterior aspect of the heart; the apex cordis belonged to the right ventricle. The left ventricle was undergrown and was situated behind the right. On opening the heart the muscle of the right ventricle was found to be half an inch thick, that of the left only a quarter of an inch. The membranous part of the interventricular septum was entirely absent, the defect thus formed admitting the tip of the little finger. The ostium pulmonale was pushed upward and backward, and was very steep and narrow; two vulva-like thickened valves converted the ostium into a narrow slit scarcely admitting a crow-quill. The foramen ovale was also patent. The lungs were not undergrown—in fact, they overlapped the heart almost completely. The pulmonary circulation must have been carried on through the stenosed pulmonary ostium, the aorta and ductus Botalli, and very likely through the perhaps widened anastomoses of the anterior and posterior of the bronchial arteries with the ramifications of the pulmonary artery. The aorta had at all times contained mixed blood.

MIDLAND MEDICAL SOCIETY.

Exhibition of Cases and Specimens.—The Modern Treatment of Diabetes.

THE sixth ordinary meeting of this society was held on Feb. 19th, at the Medical Institute, Birmingham, the President, Dr. UNDERHILL, being in the chair.

Mr. J. E. HICKMAN showed a young man in whom Ligature of the External Iliac Artery for Femoral Aneurysm had been successfully performed.

Mr. BARLING showed a patient with Hernia Cerebelli following Trephining for Cerebellar Abscess. The hernia, which a month ago was as large as a moderate-sized orange, is now shrinking and epithelium is growing over it, whilst it is reduced to less than half the original size.

Dr. KAUFFMANN showed two brothers aged twenty-seven and twenty years respectively. Both suffered from Nystagmus which appeared in each case as the sequel of progressively and slowly failing eyesight. The weakness of vision commenced at about the age of twelve. Of a large family these two brothers were the only persons affected; there was no similar disease in the parents and no hereditary syphilis. The optic discs showed slight atrophy with smallness of the vessels. In one of the patients there was a posterior polar lens opacity. There was central scotoma, but no peripheral field contraction. Dr. Kauffmann looked upon the cases as being of a degenerative nature, due to insufficient capacity for repair and resistance on the part of the nerve elements of the retina.

Dr. FOXWELL exhibited a Stomach with a Pyloric Tumour causing a Stenosed Pyloric Orifice, this being a narrow slit about a quarter of an inch long. It was taken from a man aged twenty-eight who had suffered from malaria several times, and eighteen months ago had had syphilis. Symptoms of dyspepsia arose five months prior to admission, and during the last eleven weeks he had lost two stones in weight. He had frequent vomiting and painful peristalsis with great distension. This prevented palpation of the tumour, but on rectal feeding being adopted it became very evident, moved freely with inspiration, and could be displaced three inches in a lateral direction. It was situated entirely to the right of the mid-line, half way between this and the umbilicus. It was considered peculiarly suitable for operation; a time for this was fixed, but acute collapse carried off the patient in twenty-four hours. A few days previously to death much "coffee grounds" was vomited, but there was no ulceration of the mucous membrane or sign of acute gastritis. The tumour proved to be scirrhous in nature with a very small amount of cellular growth. There were no adhesions or secondary tumours.

Mr. J. E. TROUT showed a puny, wizened child from whose urethra a large Calculus had been successfully removed.

Mr. BARLING showed a Fibro-sarcoma of the lower end of the Femur from a patient aged twenty. The growth was first noticed about three years ago, after a sprain of the knee, and it increased but slowly until six months ago, when the rate of increase became more rapid. An exploratory incision revealed the character of a very firm sarcoma, and this was confirmed by microscopic examination at the time. The limb was therefore amputated at the junction of the upper and middle thirds. The clinical history and the naked-eye appearances, as well as the microscopic examination, pointed to a growth with a low degree of malignancy, and it seemed, therefore, justifiable to amputate through the shaft of the bone rather than at the hip-joint.

Dr. MALINS showed the Uterus of a patient aged fifty-nine years which he had removed the day before by Vaginal Hysterectomy. The body was filled with carcinoma, the cervix being quite intact and clearly defined. The uterus weighed four ounces and a half.

Dr. SAUNDBY read a paper on the Modern Treatment of Diabetes. He laid stress upon the fact that diet is the only treatment about which there is practically no dispute. He further emphasised particularly the desirability of giving sufferers from diabetes as much carbohydrate food as could be assimilated. He also drew attention to the gross adulteration with starch of many so-called diabetic foods.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

Exhibition of Cases and Specimens.

A MEETING of this society was held on Feb. 13th in the Royal Infirmary, Newcastle-on-Tyne, Dr. J. DRUMMOND, President, being in the chair.

Dr. LIMONT showed a boy nine years of age whose whole skin was affected with Lichen Tuber Planus, the eruption having commenced on the wrists and the inside of the thighs

eleven weeks ago. On the shoulders typical papules of polygonal shape, waxy, and with shining tops were present. The lining of the prepuce and the glans penis and the inside of the mouth were free from eruption. On the inside of the knee the skin was thickened and pigmented.—Dr. LIMONT showed another case, a middle-aged man, whose Skin Eruption was of twelve weeks' duration. Pigmentation was very marked, the spots over the sacrum being almost jet black; in other parts they were faded and looked like a specific eruption. Outside of the pigmented areas there were typical lichen papules.

Dr. OLIVER and Mr. WILLIAMSON showed a woman aged fifty-nine years, who during the past five years had several attacks of Gall-stone Colic. After the last attack the jaundice persisted in spite of prolonged and active medical treatment. The only physical signs were jaundice and a tender and enlarged liver. The abdomen was opened in the linea semilunaris and adhesions round the gall bladder were found. In it there were six gall-stones and some clear mucus; two gall-stones were felt freely movable in the dilated ducts; as they could not be pressed on into the duodenum they were squeezed back into the opened gall-bladder, which was then sutured to the abdominal wall and drained with a tube. Bile flowed freely for the first four days and then in gradually diminishing quantities. The wound was entirely healed in a fortnight.

Dr. MURPHY showed a Gall-stone removed by incision according to Morison's method from the common duct of a stout patient fifty-six years of age who had suffered from several attacks of gall-stone colic followed by jaundice. The history and the presence of jaundice had to be relied on in making a diagnosis, for no local physical signs were present. The gall-bladder was collapsed and small. The stone found in the common duct was too hard to be broken and could not be moved. The opening in the duct was not sutured, but was allowed to drain through an opening in the back at the lower end of the kidney. Ten days after the operation the patient was in an excellent condition, but she died suddenly on the fourteenth day, and as there was no post-mortem examination the cause of her death remained unknown.—Dr. MURPHY also showed a man twenty-eight years of age who had undergone two operations for Hydatid Disease of the Kidney. He was now in good health and appeared to be cured.—Dr. MURPHY also showed a woman on whom Gastrostomy was performed three years ago on account of difficulty in swallowing. She was now well and her power of swallowing was satisfactory.—He also exhibited an Ovary removed per vaginam, because it was adherent to and low down in Douglas's pouch.

Mr. WILLIAMSON showed some cases of Rodent Ulcer. The first patient was a woman who had had an ulcer the size of the palm of the hand excised from her forehead, the gap in which was filled up with a certain amount of success by means of Thiersch grafts. The second patient was a man at the base of whose ring finger there was an ulcer which commenced in a wart and had infected the supra-trochlear gland. Another case was a woman forty-two years of age with an ulcer of five years' duration which occupied the side of the face and head, and had involved the eye, nose, and ear. It began in a small wound due to an injury and had the typical glazed, red base and firm margin of rodent ulcer.—Mr. WILLIAMSON also showed a case of Orbital Thrombosis occurring in a middle-aged man who on Dec. 1st noticed a little red spot on his upper lip. A few days later a bleb formed on his eyelid. On Dec. 15th his eye was protruded, his eyelids were bluish, and he could not close them. An incision into the orbit external to the globe allowed a few drops of pus to escape. No diminution of swelling followed the operation. A second opening made above released nothing, but the swelling subsided after it. The patient's general condition was very bad during the height of the attack, but fortunately the thrombosis became limited to one cavernous sinus and had only resulted in the loss of one eye. Death not infrequently followed these cases, in which infection spread from a septic focus on the lip to the orbital veins.

Dr. DRUMMOND exhibited a Cirrhotic Liver with a large anastomotic vein in the round ligament taken from a man who died of cirrhosis from the liver. The gland was markedly contracted, and a vein as thick as a lead pencil could be seen running in the round ligament to the abdominal wall, and so maintaining a free communication between the portal and systemic circulations. A curious feature was that the man had frequent attacks of mental impairment, becoming stupid and somnolent. There was also hæmaturia, and this association of symptoms suggested kidney mischief, but the kidneys were healthy. The stupor was preceded by constipation and rise of temperature and subsided after the action of a purgative.

LIVERPOOL MEDICAL INSTITUTION.

Stricture of the Œsophagus.—Cervical Pachymeningitis.—Tempero-sphenoidal Abscess.—Epilepsy from Lead Poisoning.

A MEETING of this society was held on Feb. 27th, Dr. RICHARD CATON, President, being in the chair.

Dr. RAWDON read notes of a case of Stricture of the Œsophagus in a woman aged forty-eight years. The symptoms were peculiar on account of the recurrent character of the attacks of difficulty in swallowing, which, from being comparatively slight, became at times almost complete. Gastrostomy was performed, but the patient died in thirty-five hours. At the necropsy a piece of orange pulp, shaped like a cigar, was found to be impacted in the œsophagus immediately above the stricture. The stricture was due to infiltration of new growth in the submucous and muscular tissue. Sarcomatous nodules were found in the peritoneum, pericardium, and both pleuræ.

Dr. CARTER showed a sailor aged fifty-nine years who, in October, 1889, had his fifth and sixth cervical vertebræ dislocated by a blow with an iron shackle. He did not afterwards remember anything until he found himself in hospital in Boston, U.S.A., on Christmas Day, 1889. Nine months after the accident his legs were atrophied and would not bear the weight of his body; the left forearm was utterly useless, being flexed on the arm and in a state of spastic rigidity; the right upper extremity was also useless and he was unable to feed himself; his chin touched the sternum and there was severe pain in the arm, leg, and chest. An operation was then performed and the fifth cervical vertebra was found to be displaced, its spine being one inch to the right of the middle line. The posterior arch of the vertebra was removed and the dura mater was found to be in a condition of hæmorrhagic pachymeningitis. At present the patient is able to walk, but his head is still bent forwards and the muscles of his left shoulder are atrophied; there is a small narrow strip of anæsthesia on the ulnar side of the left hand.

Mr. R. W. MURRAY related a case of Abscess of the Temporo-sphenoidal Lobe following left Middle Ear Disease in a girl seven years of age. The abscess was opened and drained, an ounce of pus being evacuated. A month later, when the child had apparently quite recovered, she had a convulsion affecting the right leg, right arm, and right side of the face, with loss of consciousness. The left tempero-sphenoidal lobe was again explored, and deep in the brain a drachm of pus was reached. At first she improved, but next day there was a recurrence of convulsive movements of the right side of the body including the face, with retraction of the head, and she died two days later. At the necropsy the left temporo-sphenoidal lobe was found intensely inflamed and softened, and both lateral and fourth ventricles contained pus.—Mr. RUSHTON PARKER, Mr. DAMER HARRISSON, and Mr. LARKIN made remarks on the case.

Dr. ALEXANDER DAVIDSON read a paper entitled Epilepsy and other Cerebral Symptoms resulting from Lead Poisoning; also a reference to the New Act enjoining Notification of Lead Poisoning to the Home Office. He described a very severe case of lead poisoning occurring in a man who had been working in very confined places whilst painting the interior of a ship and was admitted to hospital on a Monday complaining of headache and behaving in an imbecile manner; he soon had an attack of delirium and epileptic fits, became unconscious, and died on the Friday, four days after admission. A chemical examination of the brain showed the presence of lead, and it was estimated that half a grain was the amount present in the entire brain. Lead was also present in the liver and intestines. As there was no kidney disorder the fits could be fairly considered to be due to lead poisoning.—Dr. BRADSHAW said that as the amount of lead present in the brain was so small the convulsions might be due to anæmia.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

The Causes of Crime and the Treatment of Criminals.

A MEETING of this section was held on Feb. 7th, Dr. J. M. REDMOND, President, being in the chair.

The PRESIDENT, in his address on the Causes of Crime and the Treatment of Criminals, mentioned that criminal statistics, published since 1877, showed a falling off in the number of convictions in England, Wales, and Ireland, but the diminution was not so marked in the case of Scotland. He attributed this change for the better to the improvement of education and of the conditions under which the bulk of the working classes live. Legislation which multiplied minor offences was to be avoided owing to the danger of corrupting the innocent by causing them to associate with habitual criminals, and an exaggerated case was quoted in which a girl in Hong-Kong was arrested for being unprovided with a lantern when out of doors. The treatment of crime must come more and more under the jurisdiction of the medical profession, as modern science shows that much crime is due to hereditary causes, and modern philosophy recognises that much crime is the consequence of unhealthy surroundings.

Dr. GRIMSHAW said that it was not customary to make the subject of an address the ground of a discussion, and he rose not to open a discussion but to move a vote of thanks to the president. It was his (Dr. Grimshaw's) duty to draw up and arrange the criminal statistics of Ireland, and he believed that the subject dealt with in the paper was of great importance to medical men. For instance, drunkenness and the increasing numbers of crimes arising out of drink were matters that deeply concerned the medical profession, for he was convinced that medical practitioners, exercising so large an amount of control as they did over the bodily and mental health of the community, might do much to prevent drunkenness. Too much importance had been assigned to heredity as a cause both of drunkenness and of criminality.

Mr. COX in seconding the vote of thanks said that the questions raised in the President's paper were too much ignored by the medical profession, and he went on to advert to a class of crimes that might be punished sufficiently by compelling the offender to give compensation to the injured party.

Reviews and Notices of Books.

A Manual of Pathology. By JOSEPH COATS, M.D. Glasg., Professor of Pathology in the University of Glasgow. Third edition. London: Longmans, Green, and Co. 1895. Price 31*s.* 6*d.*

THE appearance of a new edition of Professor Coats's standard text-book will be welcomed alike by teachers and students of pathological anatomy, for the book is one which is pre-eminently characterised by accuracy of description and soundness of judgment. There are many moot points in pathological science which require to be discussed with impartiality and deliberation, and it has always seemed to us that few writers upon this subject have dealt so judicially with such topics as does Professor Coats. He recognises to the full the importance of attaining a correct appreciation of the nature and causes of morbid processes, and his definition of pathology as being the "scientific study of disease" marks the high plane in which his treatment of his subject moves. Another excellent feature in the book is the equitable division of its subject matter. It covers the whole ground, but it is difficult to assert that any particular branch receives undue attention. Hence its excellence as a text-book and the testimony it bears to the painstaking industry of the author. For in the rapid strides which have of late years been made in certain directions there has been no small danger of hasty generalisations displacing, or rather overshadowing, the older and more firmly established facts of pathology. Happily for the student, Professor Coats has the faculty of blending new knowledge with the old and the acumen to discriminate between facts that are established and those inferential deductions which are lacking in solid proof. As one instance out of many that might be cited we may refer, for example, to the question of the alleged parasitic origin of malignant neoplasms. It is well known how the discovery of certain appearances in the cells of such formations, aided by the analogies of coccidial infection, has been strenuously advanced in support of the doctrine referred to. Professor Coats admits (p. 298) that in the case of cancer "a parasitic origin might explain the malignancy of the disease and its spreading character" as well as its general dissemination; but he finds it difficult to explain on the parasitic theory the local origin of the primary tumour, the absence of a multiple origin, and the fact of the different types of tissue growth characteristic of the various forms of cancer. He does not, however, dismiss the parasitic theory *in toto;* indeed, he admits that there is presumption in its favour, but "there are many facts to be elucidated before it can be finally accepted." In other words, his verdict is the one not unfamiliar to the courts of his country—namely, "Not proven." The chapter upon Bacteria and Parasitic Fungi is kept within due limits but is well brought up to date, mention being made under the description of the cholera bacillus of M. Haffkine's protective inoculations. The first part of the work—that devoted to general pathology—concludes with a chapter on Pyrexia, in which again the author finds himself confronted with conflicting theories, here summed up under the two heads of "nervous" and "metabolic." It is to the latter that he gives his adhesion, being unable on the former hypothesis to explain the fact that multifarious agents induce pyrexia when they are present in the blood, whilst it is difficult to believe that they act similarly upon the nervous system. Nor can he find any analogy between normal heat-production and that occurring in fever. More than two-thirds of the work are occupied with the description of the morbid anatomy of the various organs of the body, including the skin, ear, and eye. As we have already indicated, it is impossible to particularise any section as being more notable than any other; but the student will be grateful to the author for discussing with the fulness that is here bestowed on them the diseases of bones and joints and the diseases of the peripheral and central nervous systems. The whole book bears evidence of having been carefully revised; and those who are familiar with the previous editions will be especially struck by the large number of fresh illustrations, many of them reproductions of photographs, which greatly enhance the value of the work.

Tuberculous Disease of Bones and Joints: its Pathology, Symptoms, and Treatment. By W. WATSON CHEYNE, M.B. Edin., F.R.S., F.R.C.S. Eng., Professor of Surgery in King's College; Surgeon to King's College Hospital and Paddington-green Children's Hospital, London. With 63 Illustrations. Edinburgh and London: Young J. Pentland. 1895. Price 14*s.*

THIS volume deals with a subject second to none in importance to all general surgeons. Since the great discovery of the tubercle bacillus by Koch, and its demonstration in the bones and synovial membranes in cases of disease which had previously been grouped as "strumous," not only has the pathology of these diseases been placed upon a surer and more certain foundation than was previously possible, but the etiology, prevention, and treatment of these diseases have required re-examination and undergone considerable development. Many admirable pathological and clinical works have been written on tuberculous disease of bones and joints, especially the

latter. But Koch's discovery is of such momentous influence that anything written in ignorance of it is of little value to the student and practitioner of to-day, and there is abundant room for description, discussion, and criticism from the new standpoint.

In the first part of the book before us Mr. Watson Cheyne has republished much of his Astley Cooper prize essay and of the lectures he delivered at the Royal College of Surgeons of England. In it he discusses the pathology and treatment of tuberculous disease of bones and joints in general. The pathological processes are described in considerable detail, and the text is illustrated by many reproductions of photographs of sections of diseased tissues. This first division of the volume is characterised by precision and lucidity of statement, and by that scientific accuracy and thoroughness which we are accustomed to look for in all Mr. Cheyne's work. It is the more valuable part of the work, and will be found extremely interesting and instructive to those who have been unable themselves to follow the recent advances of pathological science. *En passant* Mr. Cheyne discusses the essential feature of the tuberculous deposit—a subject on which much has been said, and on which the last word has yet to be said—and gives in his adhesion to the view that the epithelioid cells are the characteristic element of tuberculous tissue. Now that the tubercle bacillus has been discovered this discussion has lost much of its interest and has become almost academic.

The section on the Treatment of Bone and Joint Tubercle is a careful and temperate estimate of the most important means at the surgeon's disposal. The value of rest and general hygienic measures is rightly insisted on, but the chief interest attaches to the discussion of the true place and value of arthrectomy and excision. On this point we may quote Mr. Cheyne's own words: "The conclusion as regards arthrectomy and excision, which seems warranted by all the facts, is that arthrectomy is the proper radical operation in children up to fifteen and sixteen years of age, and excision in patients who have reached their full growth." Very little is said of the value of parenchymatous injections of iodoform, carbolic acid, chloride of zinc, and other agents. This method has been largely employed by some surgeons, but although some measure of success has been obtained it has not met with general acceptance, and we fully agree with Mr. Cheyne's expressed and implied estimate of its value.

The second section of the volume is devoted to a discussion of the symptoms and treatment of tuberculous disease of the various joints and bones, and is on the lines with which we are all familiar. Several of the figures in this section have been taken from Bradford and Lovett's work, and are not very pleasing works of art; but the few original illustrations are of no greater artistic merit. It is a pity that more care was not taken to make the illustrations worthy of the text.

Transactions of the Pathological Society of London. Vol. XLVI. London: Smith, Elder, and Co. 1895.

THIS volume of Transactions of a society which is recognised the world over to have done not a little to foster and advance the study of pathology is not inferior to its precursors, although those familiar with the Transactions of a decade ago may miss that abundance of descriptive morbid anatomy which was wont to characterise them. We fear that under the influence of the "new pathology" there must be less enthusiasm amongst the younger morbid anatomists to work out and describe the specimens which the deadhouse affords, and we may venture to doubt whether this is desirable. The rich mine of morbid anatomy in the metropolis of the world can hardly be said to be exhausted, nor is the present race of pathologists less zealous than the preceding; but there seems to be a growing diffidence in the putting on permanent record observations which are constantly being made only to remain buried in hospital registers. On the other hand, it is well, if specimens do find a place in the Transactions at all, that they should be adequately described, and not dismissed with a terseness which finds its *reductio ad absurdum* in the record of one specimen mentioned in this volume in the words, "A specimen was exhibited before the society." It would, however, be churlish and even unjust to lead anyone to infer from these remarks that this volume does not contain very many papers of great excellence and interest, whilst the illustrations are of the high order which we are accustomed to find in this series of volumes. Amongst the papers of especial value are the following:—Lesions in the Brains of Lunatics, by Mr. C. F. Beadles; Congenital Cystic Adenoma and Carcinoma of the Kidney, by Mr. E. Willett; The Microscopic Structure of Urinary Calculi of Oxalate of Lime, by Dr. W. M. Ord and Mr. S. G. Shattock; the Note on Variola and Vaccinia, by Mr. Jackson Clarke; Absorption and Metabolism in Obstruction of the Pancreatic Duct, by Dr. Vaughan Harley; the paper on Graves's Disease, by Dr. W. Edmunds; and that on Results following Removal of Portions of the Kidney, by Dr. J. R. Bradford; whilst the discussion upon Diphtheria and Antitoxin and the paper by Dr. Washbourn on the Pneumococcus show that the society is alive to current bacteriological thought and research.

Grundriss der Pathologischen Anatomie. Von Professor Dr. R. LANGERHANS. Zweite Auflage. (*Outlines of Pathological Anatomy.* By Professor R. LANGERHANS. Second edition.) Berlin: S. Karger. London: Williams and Norgate. 1896. Price 12*s.* 6*d.*

THIS book, intended to serve as an introduction to the study of pathological anatomy, first appeared in more compact form on the occasion of the seventieth birthday of Professor Virchow, as a tribute from his former pupil, who is prosector at the Moabit Hospital, Berlin. Now that it has been expanded, by the enlargement of certain chapters and by the addition of others on the special sense organs, it is a fairly compendious, yet not wholly satisfactory, manual. Commencing with a brief disquisition on etiology and heredity, the text comprises first a description of the disorders of circulation, then those of nutrition, including inflammation and fever. The next chapter on malformations is little more than a catalogue. Nor can we think that the retention of Virchow's "oncology" is quite in accordance with present-day classification, whilst the curious manner in which the infective diseases are grouped is wholly irrational and unsystematic. This, however, may be a trifling fault, but we must deprecate the collocation under "diphtheria" of all affections in which the anatomical feature of "diphtheritic inflammation" occurs. This seems to us to be decidedly retrograde, for surely the etiological factor should outweigh the anatomical in classification, and there can be no reason for retaining the old alliance of dysentery with diphtheria as is here done. We are unable to follow Professor Langerhans in his statement that acute fibrinous pneumonia may have a "catarrhal" or a "hæmorrhagic" first stage, nor do we think that in an anatomical work it is at all scientific to treat of "apoplexia cerebri" as a condition embracing the subdivisions of A. hæmorrhagica, A. hyperæmica, A. anæmica, A. serosa, and A. nervosa ("shock"). The diseases of the adrenals are described as an appendix to those of the nervous system, apparently on the ground that derangement of the sympathetic occurs in Addison's disease, and that the adrenals may be absent or ill developed in anencephalous fœtuses. There is perhaps even less reason for appending the thyroid gland to the

section on diseases of the respiratory organs. However, in spite of these blemishes there can be no doubt that the book contains a vast amount of information within comparatively small compass, and the very excellent index enables the reader to refer to every topic with facility. The illustrations, 136 in number, are many of them diagrams which will be useful as guides to teachers in their use of the blackboard.

LIBRARY TABLE.

Outlines of Practical Physiology; being a Manual for the Physiological Laboratory, including Chemical and Experimental Physiology, with reference to Practical Medicine. By WM. STIRLING, M.D., Sc.D. Edin., Brackenbury Professor of Physiology and Histology in the Owens College and Professor in Victoria University, Manchester; Examiner in Physiology in the Universities of Edinburgh and London. Third edition, revised and enlarged. With 289 illustrations. London: Charles Griffin and Co. 1895.—The object and scope of this scientific text-book are succinctly set forth in its title, and it really is what it pretends to be. It is profusely and admirably illustrated, many of the woodcuts being original, and this edition has been revised, re-arranged, and enlarged. It consists of two parts, the first on Chemical Physiology, and the second on Experimental Physiology, with an appendix on Recording Apparatus. As the present is the third edition there is no need to say much about it. The work, which is based upon the results of an extended experience in teaching practical physiology, is excellent in design and uncommonly well and carefully executed. It can be honestly recommended as an admirable guide to practical physiology and laboratory work.

Messrs. Henry Frowde and Co., of the Oxford University Press Warehouse, Amen-corner, E.C., have added yet another to the dainty collection of Service books, &c., issued by them on their celebrated Oxford India paper, and now send us the *Oxford Thumb Prayer Book, with Hymns Ancient and Modern complete*, the dimensions of which are 2⅝ in. × 1⅞ in. × ¾ in., the weight under 1¼ oz., and the number of pages 1558.

Herbert Fry's Royal Guide to the London Charities. Edited by JOHN LANE. London: Chatto and Windus. 1895. Price 1*s.* 6*d.*—This well-known compilation, which has now made its thirty-second annual appearance, is a great storehouse of information for philanthropic workers and the charitable public. An idea of the vast amount of benevolent effort which is made to alleviate distress and suffering may be formed from the fact that the mere enumeration of the names of the various agencies at work in this field occupies 293 pages. In the distribution of such large sums of money there must obviously be an enormous amount of overlapping of the operations of organisations dealing with like classes of applicants, and the utility of an acquaintance with such works as this Guide is recognised by the responsible officials of all charitable undertakings.

Introductory Exercises in Urdu Prose Composition, with Notes and Translations. By Surgeon-Lieutenant-Colonel G. RANKING, M.D., M.R.A.S., Secretary to the Board of Examiners, Fort William, F.C.U., and Maulavi Muhammad Yu'suf Ja' Fari, Chief Maulavi to the Board of Examiners. Calcutta and London: W. Thacker, Spink, and Co. 1896.—Surgeon-Lieutenant-Colonel Ranking of the Indian Medical Department has done excellent service to Europeans stationed in India by his treatises and guide-books to the acquirement of a knowledge of the native languages, and the present work has been prepared to meet a want which his service and experience in India have taught him to be a pressing one. The introduction to the work contains some interesting information about the growth of what was originally a language with a very limited vocabulary into one of the largest and most comprehensive of languages by the additions made to it by successive foreign encroachments. Urdu contains words from the Persian and Greek tongues, and through these from the Greek and Latin, as well as from the English languages. The translations from English into Urdu seem to us to be well and ingeniously rendered, and the work will prove most useful to those who are required to pass examinations in Urdu of which translations from English form a part.

Some Old Love Stories. By T. P. O'CONNOR. London: Chapman and Hall, Limited. 1895.—Mr. T. P. O'Connor has the faculty of putting himself *en rapport* with the times and circumstances and the characters he depicts. The five biographical histories included in this volume are of very unequal interest. Those dealing with Fersen and Marie Antoinette, Mirabeau and Sophie de Monnier, and Carlyle and his wife possess materials that naturally lend themselves, especially those concerning Marie Antoinette, to a sympathetic style of writing and dramatic effect, and are well suited to this author's method of treatment. The work is not by any means one of compilation only, but the materials are skilfully arranged; the more striking points of interest as well as the little pathetic incidents and trifling traits which are significant and indicative of motive and character are prominently brought out or just touched with a graphic or delicate handling that is both suggestive and interesting.

We have received a copy of the Urdu translation of First Aid to the Injured, by Mr. Samuel Osborn, F.R.C.S. Eng. The translation has been undertaken by Munshi Newal Kishore. We are glad to welcome this as a valuable addition to medical works in the vernacular for the use of non-commissioned officers in native regiments.

MAGAZINES.

The *Asclepiad* completes its eleventh volume with the last quarter of 1895. The opening article treats of Angina Pectoris, and the subject is handled in the careful and eminently common-sense manner so characteristic of Sir B. W. Richardson. He draws special attention to the fact that diet and temperance—using this latter word in its widest sense—are as, if not more, important than drugs, though at the same time he gives every credit to the value of nitrite of amyl and nitro-glycerine as palliatives or even in some cases preventives of an attack. There is an interesting paper upon Working-class Sanitation, being an address delivered at the Manchester Sanitary Congress in April, 1895. The biographical paper deals with Dr. Thomas Young, who established the doctrine of "interference" with regard to colours of light, and who was eminent, if not as a physician, as a scholar and philosopher.

The *Edinburgh Medical Journal* for March contains among other original articles a most interesting paper by Mr. Christopher Martin upon Panhysterectomy. He does not sew the peritoneum together to form a roof for the vagina, but plugs the vagina with an iodoform gauze plug, which he says quickly becomes encapsuled with aseptic lymph. By an unfortunate misprint in the copy before us the word "aseptic" is made to read "a septic." There are a number of reviews and the usual periscope.

In the *Humanitarian* Mr. Arnold White has a paper on the Multiplication of the Unfit. We quite agree with him that the multiplication of the unfit is a most serious evil, but we do not see how at the present time it is to be prevented. Mr. White pleads for a State inquiry into the physical condition of the population, with special reference to the effects of premature, unhealthy, and reckless marriages.

New Inventions.

A NEW SPIRAL CATHETER.

THE instrument, of which the accompanying is an illustration, is a new form of catheter which I have designed, and which is manufactured for me by Messrs. Arnold and Sons, London. I have tested it in practice and claim for it several advantages, the chief being:—its easy manipulation; that it can, by reason of its spiral end, on being rotated, worm its way corkscrew fashion through a stricture; that when past a constriction it will have obtained purchase sufficient to enable it to contend with further obstruction, instead of being retarded in its passage as is the case when using the old type of instrument; and the danger of employing undue force in its application is diminished, as the pressure it exercises is uniform and gentle. The idea can also be applied to bougies for the gradual dilatation of strictures.

JOHN F. ELLIOTT, L.R.C.S.I., L.R.C.P.I.

NEW RESPIRATOR-INHALER.

I BEG to introduce to the notice of the profession a respirator-inhaler which I have designed, and which presents some features of novelty. Outwardly it has the appearance of a cigar or cigarette (it is made in two forms) fixed in an amber mouthpiece, so that a person with one in his mouth in the street appears to be smoking and so attracts no attention whatever. It thus enables one to carry out dry inhalations in the treatment of respiratory diseases with a constancy unattainable by any of the instruments at present in use, as the great majority of patients are very sensitive about their unsightly appearance. Both ends screw off, so that free access is afforded to the interior for the purpose of changing the absorbent medium. As a dry inhaler, charged with oil of eucalyptus, it affords a protective against contagion. In

FIG. 1.

FIG.

deafness arising from middle-ear catarrh and Eustachian obstruction it can be utilised to introduce volatile drugs into the tympanic cavity by Valsalva's method. Fitting an india-rubber nosepiece, like that on a baby's feeding-bottle, on the amber end converts it into an efficient nasal inhaler for the inhalation of menthol, &c. It is exceedingly light, the cigarette form being little more than 1½ drachms and that of the cigar form rather more than 3 drachms. It is neat and attractive in appearance and very portable. Together with a small vial, with spouted lip for containing the medicament, it can easily be carried in the waistcoat pocket.

Messrs. Arnold and Sons, West Smithfield, London, E.C., are the manufacturers, and their name is a sufficient guarantee for perfect finish and good workmanship.

WM. G. SUTHERLAND, M.B. Aberd.

Capheaton, Newcastle-on-Tyne.

A URETHRAL KNIFE.

THE accompanying illustrations represent the urethral knife described by me in THE LANCET of June 1st, 1895, now fitted as then suggested with a shield which renders it safe to use in any part of the canal, and through which it can be passed either direct or preceded, if need be, by the dilatation of tapering sounds. I offer it to the profession as being simpler, safer, and more inexpensive than any urethrotome in use. Fig. 1 shows a bulbous-ended variety, and instead of a bulb a long guide might be screwed on if desired. It cuts at A C only, the edge B A being blunt, and intended to slide on the mucous membrane until the obstruction is reached. The following is the mode of use. 1. Decide

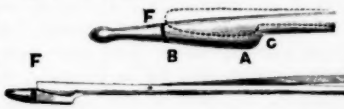

FIG. 1.

FIG. 2.

upon the desired restoration calibre of the strictured part; allow of the proper elevation of the shield F by turning the screw E to carry this out (this calibre being instantly determined by a simple means I shall not take up space in describing). 2. Depress the shield again and pass the instrument through the stricture. 3. Press on D to again elevate the shield, and withdraw in this way until the stricture is severed. Perhaps I am justified in claiming four advantages: (*a*) Normal axis is restored; (*b*) stricture tissue is cut only; (*c*) the same is made tense whilst being cut; and (*d*) preconceived desired calibre is restored and *not exceeded*. Hence the usual disagreeable sequelæ ought to be prevented. I am not aware of any other instrument, however ingenious, which can carry out these desiderata combined or any two of them. The instrument is well made by Messrs. Arnold and Sons, London.

Finsbury-pavement, E.C. JAMES MACMUNN.

NEW FORM OF DRESSING-SCISSORS.

HAVING been six years engaged in hospital work and a dresser at Addenbrooke's and St. Thomas's Hospitals for four years, I have often noticed the unnecessary pain produced, and the great inconvenience experienced, especially by young nurses, by using the ordinary scissors. This

has led me after many years' study to invent a new form of dressing-scissors. They are probe-pointed, and the cutting blade does not extend to the end. They are beautifully made by Messrs. Arnold and Sons. I have shown them to many medical men who much like them.

Taunton. R. H. WEST.

THE LANCET.

LONDON: SATURDAY, MARCH 7, 1896.

IT may seem to the outside world that the General Medical Council goes to sleep during the interval between its bi-annual sessions; but a perusal of the minutes of the executive committee, which, like the minutes of the Council itself, are published, tends to dispel that impression. The fact is that the executive committee carries on in an important sense the work of the Council. The work of the President is continuous and has of late been more exacting and laborious than usual. The preparation of the Pharmacopœia and the alteration of the premises of the Council have served to add much to his duties. Besides these, two or three great subjects were referred by resolutions of the Council in November to the care and consideration of the executive committee—notably, the questions of the Disciplinary Powers of the Licensing Bodies and the position of the Apothecaries' Hall of Dublin as affected by the refusal of the General Medical Council at its last meeting to appoint surgical examiners so as to enable it to give a complete examination in medicine, surgery, and midwifery, as required by the Medical Act of 1886. On both of these subjects, as on several others, much interesting matter is contained in the minutes of the meeting of the executive committee held on Monday, Feb. 24th. We have already referred on several occasions to the first of these subjects. It may be remembered that on Nov. 26th, 1895, on the motion of Dr. GLOVER, seconded by Dr. THORNE THORNE, the Council resolved:—

"That it be an instruction to the executive committee to revert to the consideration of the subject of the disciplinary functions of the qualifying medical authorities and of the General Medical Council, and to report to the Council at its next meeting on the best means of further defining and confirming those functions, and bringing them into harmonious and efficient coöperation."

In the present state of the profession, with a very quickened sense of the need for defining and localising its ethical powers, it is of the greatest moment that the executive committee should treat this subject both promptly and seriouly. The minutes show that so far both the executive committee and the President of the Council have shown most commendable earnestness in the matter. They have already, in reply to a circular from the Registrar, issued by the President's direction, received most valuable information from nearly all the qualifying Bodies. The possession of disciplinary power is of the very essence of our medical corporations, and dates back in the case of the Royal College of Physicians of London to a clause in the Charter of Incorporation, A.D. 1518, confirmed by Statute 14 and 15, Henry VIII., C. 5, and confirmed and enlarged by subsequent statutes. The Royal College of Surgeons of England has similar powers, rendering a Fellow or Member liable to removal by the Council for any act prejudicial to the College or disgraceful to the profession of surgery. The Apothecaries' Society of London does not hesitate "for what it is worth" to call the attention of their Licentiates to complaints against them, but they cannot censure them. They can only remove from the List of Licentiates (by 4th Section of the Apothecaries Amendment Act, 1874) persons convicted of felony, crime, &c., or who have been judged by the General Medical Council to be guilty of infamous conduct. The Scotch Corporations have similar powers to those of the English Colleges, but the Royal College of Surgeons of Edinburgh shows a disposition to wait for the initiative of the General Medical Council, which is unreasonable. The authorities of the College are the proper custodians of the honour of their own diplomates, and can act with much less expense, in a much more domestic way, and at an earlier stage of misconduct, than can the General Medical Council. They would save much scandal to the profession by such early action, and would reserve the last punishment of the General Medical Council for grave and incorrigible cases. Similarly, the Irish Corporations, saving the Apothecaries' Hall of Dublin, have ample power over their Fellows, Members, and Licentiates. The minutes of the executive committee show how fallacious is the idea that the Universities are helpless in the case of misbehaving or discreditable graduates. The University of Oxford has the statutable power of depriving a graduate of his degree for infamous conduct. The University of Dublin has power to censure and to remove names from the list of graduates. It has no fixed rules, but considers each case on its merits. The University of London has power to censure and remove names from the Register—though happily it has never been called on to exercise such power. The University of Cambridge, however, is practically content with a *non possumus*, since it only asks for a statute to deprive of his degree any graduate "sentenced to imprisonment." The Victoria University does not possess any disciplinary powers, neither does the Royal University of Ireland; and the great universities of Scotland, which send forth graduates in thousands over the empire, are in doubt whether they have such powers or not. Happily they show a desire to be armed with a power so essential to their purity. It will scarcely be fair henceforth to the great body of their graduates to sit down contentedly without the power of removing names which disgrace them from the calendars of the Universities. The public, as well as the self-respecting graduates, will not rest satisfied with a state of matters that allows men who have ceased to be on the Register to retain the titles which imply high qualifications in medicine and surgery. Fortunately, the executive committee has appointed a good subcommittee to consider the extension where necessary of the disciplinary powers of the medical authorities, including, of course, the universities.

The minutes of the executive committee show that the case of the Apothecaries' Hall of Dublin is full of complication and difficulty. It seems an easy matter to relieve an examining body of its duties and to disfranchise it. But it is not so easy as it seems, when this body has been acting jointly with another body, which must share the responsibility of the examinations, when it has not been shown to have "passed" unfit candidates, when the reports of inspectors show improvement in

the standard, when its extinction must be the act of the Privy Council, and when a considerable body of opinion in its own division of the kingdom is in its favour. The candidates who have been partly examined by the Conjoint Board have first to be considered, and the Lords of the Privy Council appear to have acquiesced in a continuance of this Board—though it had really been dissolved—for the special purpose of their further examination. Their lordships have not gone further than this at present, though a strong counsels' opinion—signed by R. B. HALDANE, EDWARD CARSON, and B. STEPHEN FOSTER—has been obtained in favour of the view that the General Medical Council should appoint surgical examiners. The executive committee, in accordance with the wishes of their lordships, have made arrangements for the inspection of such further examinations.

THE discussion on malarial fevers at the Royal Medical and Chirurgical Society on the 11th and 25th ult. was very interesting and in some respects most valuable. The joint paper by Dr. MARSHALL of Huelva and Dr. THIN by which the discussion was introduced dealt with the question of the parasite and with the mode of propagation of the malarial poison, and on both these points the writers expressed most definite opinions. During the discussion the prophylactic value of quinine, as apart from its curative effects, was referred to by several speakers, and many important and apparently conclusive instances were brought forward in support of its prophylactic influence. No one should go into a malarious country or district without taking a daily ration of quinine in small doses of from five to ten grains. In cases of working parties or expeditions this practice should be insisted on by the responsible officer in charge, just as a daily ration of lime juice is made imperative in the mercantile marine and is daily administered under the supervision of the captain or some other officer in authority. Quinine may be given in many ways, but if put into the coffee which is regularly served out to the men in the morning a very simple, regular, and efficient mode of administration is secured, and the palate soon gets accustomed to the flavour of the drug.

Dr. MARSHALL and Dr. THIN endeavoured to prove the following proposition: "As malarial fevers assume a variety of types in different parts of the world, and as at least three—some authorities would say five—varieties of parasites have been found associated with as many distinct types of fever, it appears probable that as many varieties of parasites exist as there are varieties of fever, and there is thus opened out to us a large field for observation in undertaking the study of the parasites found in the blood of malarial patients." It was as a contribution to this aspect of the subject that the paper was brought before the society, and much praise is due to the writers for their painstaking and laborious work. The number of observations made on the blood is enormous. Dr. MARSHALL recorded the clinical histories of his patients at Huelva in Spain, and he and Dr. THIN simultaneously examined the specimens of blood taken from these patients. With the exception of some observers in India all who have carefully examined the blood of malarial patients are now agreed that there is a living parasite to be seen therein, and that LAVERAN'S discovery was correct. The parasite undergoes various stages in its development and is seen in different forms and shapes, and it was as to whether the observations made by Dr. MARSHALL and Dr. THIN confirmed the statements of GOLGI that these differences were characteristic of the different varieties of the fever that the chief interest of the paper was centred. In view of the subsequent discussion we cannot say that they quite proved the proposition which they had so absolutely laid down. The young spore of the hæmatozoon is first seen in an amœbic form which attacks a red corpuscle and as the amœba develops pigment is observed in its substance, and the writers of the paper consider that the character of these pigment granules and their mode of arrangement are distinctive of each variety of parasite, but there is considerable question whether such pigmentation is not really accidental and not distinctive. Again, it is a further question whether the alterations in size and colour of the red blood corpuscles, as the parasite is developing, are as characteristic as Dr. MARSHALL and Dr. THIN believe them to be. In fact, are they not insisting too much on minute differences which may only be accidental and possibly due to changes in the density of the medium and the effects of reagents? In addition to the amœbic form crescents have also been seen in all varieties of malarial fever, although they are more numerous in the chronic fevers and especially in those which do not readily give way to quinine. Both of these forms have been observed to flagellate and the flagella to become free and move about most actively in the blood. Such movements are anything but those of a "death agony." The sporulating or roseate forms are seen in tertian and quartan agues and their different appearances may, as GOLGI says, be characteristic of these two typical forms of malarial fever, and Dr. MARSHALL and Dr. THIN put forward their cases to strengthen his views. For real confirmation, however, simple tertian and quartan cases untreated for some days by quinine should have been selected, whereas those narrated by Dr. MARSHALL are cases of supposed double tertian and double quartan and other irregular forms of the fever, so that further observations are still needed to prove this point as well as the relationship between the amœbic, the sporulating, and the crescentic varieties of the plasmodium.

The experience of Dr. MARSHALL is the same as that of other observers—that malaria is often very narrowly localised, and he has reason to believe that it hugs the soil very closely and is not readily carried by currents of air from one place to another, whilst moist conditions favour its development and render it more fitted to establish itself in the human body. He is, however, very sceptical whether drinking-water is ever the vehicle by which the parasite is introduced; and, although he may be correct in his statement that this is certainly not the medium at Huelva, we know too little of the life history of the parasite outside the human body to act on this view as universally true. The instances mentioned by Dr. CURNOW and the experiences of the speakers who had lived long in India are strongly in favour of the hypothesis

that water may be the means by which the poison gets into the system, and certainly all suspicious water must still be avoided. The part played by the mosquito was referred to by the authors, who evidently do not attach as much importance thereto as did LAVERAN and some more recent observers, but we shall probably hear much more on this point from Dr. MANSON in his forthcoming Gulstonian lectures at the Royal College of Physicians of London.

THE introduction of such drugs as chloroform and ether and their adoption as means of rendering the patient insentient and passive during the performance of even the most complicated operations have added one more to the grave responsibilities which surround the medical practitioner of to-day. That such responsibilities are borne more easily by some than others is to be expected. The duties which a medical man undertakes, and for which he is answerable to the law, are not always very clear from their legal aspect, and the legal responsibilities of the moment may vary according to the circumstances of the case. There are, however, certain broad principles underlying all such cases, whether they are emergencies or occur in the routine lines of daily practice, and it may be useful to consider these in this place.

The person who undertakes the control of the anæsthetic is responsible for the safety of the patient. It has been held by persons of great weight in the profession that the real person who bears the burden of the responsibility is the surgeon who operates, and this undoubtedly is a correct theory as far as it goes. If a surgeon commits his patient to an unskilled chloroformist, knowing him to be so, any loss sustained through the neglect or ignorance of the anæsthetist would be in part due to the surgeon, and the obloquy of permitting such an inexpert individual to approach his patient would undoubtedly belong solely to him. The patient, as a rule, looks to the surgeon to so arrange that the operation shall be carried out in all its details as well and as safely as knowledge and skill can effect. But the responsibility of the actual conduct of the administration of the anæsthetic must in every case rest with the person whose allotted task it is to devote himself to it. The surgeon may be highly reprehensible if he permits a novice to undertake the administration of ether or chloroform, but the person giving the drug cannot be screened from his act by the surgeon. This clear statement of fact underlies the first canon of practice. The person who gives an anæsthetic, unless he be a student who does it under the eye of his teacher, who then assumes the responsibility, must always be a duly qualified medical practitioner. It may be urged that many ward orderlies or nurses are far more experienced than newly qualified men, but even were this so it is no valid reason for permitting unqualified persons to undertake the functions of medical practitioners; and this leads us to the second canon, which insists that only those should be permitted to give chloroform or ether who have adequate experience in the use of these potent agents. The familiarity which druggists possess with herbs and simples qualifies them in no respect to apply them in the treatment of disease, and even less would a nurse, however many times she may see an operation performed or chloroform administered, be competent in the eyes of the law or of the profession to undertake the one or administer the other. At one time the rule of thumb was dominant, but fortunately more exact methods at present prevail. The Buddhist praying machine and the heedless drenching of patients with anæsthetics by irresponsible medical novitiates are alike disbelieved in by the thoughtful in such matters. The splendid work of SIMPSON, of SNOW, of LISTER, of CLOVER, of LAWRIE, and many others has driven home the lesson that safety in anæsthesia means accurate knowledge and its stringent application to the methods adopted in giving an anæsthetic. The average medical man has nowadays received a training at his hospital in anæsthetising, and hence there can seldom, if ever, be a necessity for calling upon an unqualified person to give chloroform. When such a step is taken it can only be done at the risk of the individual who resorts to this most dangerous development and of the unqualified person who with his eyes open attempts to perform one of the most anxious and responsible duties falling within the province of a medical man. We are informed that in more than one small hospital it is the custom to entrust the anæsthetic to a nurse. Such a practice can, we submit, only be justified by most exceptional exigencies. The surgeon should give undivided attention to the operation or the anæsthetic, for nothing short of this can be sufficient for the patient's safety. No one can with safety supervise a person giving an anæsthetic and perform an operation.

More than one action for damage has been brought against medical men who have lost patients under chloroform, and in such cases the only possible defence can be that everything was done for the unhappy patient which experience and skill could effect. Thus the fact must not be blinked that both from the point of view of medical ethics—which demands that one medical man shall, when he needs professional assistance, call to his aid the services of a qualified fellow practitioner—and from the purely legal standpoint the responsibility of giving an anæsthetic should be borne wholly and solely by a registered medical man who is competent to select his anæsthetic and to administer it in the best possible way. Certain it is that anyone who wittingly violates these rules puts himself outside the pale of professional and legal right.

THE ANNUAL REPORT OF THE WESTON-SUPER-MARE ROYAL SANATORIUM.—The annual meeting of the Weston-super-Mare Royal Sanatorium was held on Feb. 22nd. The honorary secretary reported that during 1895 the receipts amounted to £3029, as against £3191 in 1894. The expenditure was £2814, being slightly in excess of the previous year. Mr. G. B. Fraser, the medical officer, stated that the number of convalescents admitted during the past year had been 1391; of these, 362 were discharged recovered, 655 much improved, 339 improved, 6 no better, and 7 discharged or went away of their own accord. There were 22 unfit cases; of these, 4 died in the institution, 3 from phthisis and 1 from heart disease. It was mentioned that the hot and cold sea-water baths are much appreciated by the convalescent patients, 4198 baths having been taken during the year. Mr. C. D. Cave was elected President. This gentleman has held a similar post at the Bristol Royal Infirmary for the past fifteen years.

Annotations.

"Ne quid nimis."

THE ROYAL BERKSHIRE HOSPITAL.

WE have frequently had to comment upon the singular ignorance of the law governing medical men which is exhibited by bodies passing under the title of boards, vestries, school boards, and the like. The board of management of the Royal Berkshire Hospital recently passed and embodied in the rules of the hospital a resolution to the effect "that when the attention of the medical staff is called to the number of overtime patients within the hospital, such patients shall be consulted upon by the medical officers in charge of the patients collectively, with a view of discharging those that are eligible." This seems to us a most remarkable resolution. Surely the medical officer in charge of the patient is fit to pronounce upon the question as to whether he or she ought to go out or not. If he wanted another opinion he could easily ask one or more of his colleagues for such opinion, and we have no manner of doubt that such a request would be gladly acceded to. In fact, according to Rule 66 of the hospital it was laid down that with reference to the further stay in the hospital of a patient who had already been in eight weeks there would be a consultation with another member of the staff; and this, we maintain, is a wise and sufficient provision; but by this new rule surgeons will be called upon to criticise medical cases and physicians surgical ones, so that if the rule is carried out friction will inevitably arise. Further, by Rule 46, physicians must be graduates in medicine of a university of Great Britain or Ireland and must not practise or be in partnership with anyone who practises surgery, pharmacy, or midwifery. No such limitations are imposed upon the surgeons. If, then, care is taken to procure such very superior men as physicians they are surely competent to decide on the question as to whether a patient stays in or not. We may mention that according to our information the three physicians voted against the resolution and the six surgeons for it. In our opinion such a resolution is wholly unjustifiable, and those members of the staff who voted for it took a mistaken course. The board of management, however, must have very curious ideas as to the proprieties. Let us take Rule 65: "When in-patients are discharged *cured or greatly relieved* they shall be enjoined by the chairman of the board or the person who may give them their discharge to return thanks to Almighty God in their respective places of worship, *and also, whether relieved or not*, to the persons who recommended them to the hospital, for both of which purposes printed papers shall be delivered to them." The italics are ours. Was ever such a monstrous rule penned by a body of presumably more or less educated men before? The Almighty is only to be thanked for cure or great relief; the subscriber, because, we take it, he gives a guinea, is to be thanked whether the patient is relieved or not. This is the true commercial spirit of heathendom which is seen alike in the pagan when he ill-treats his idols, in the ignorant Roman Catholic when he refuses certain saints certain candles, and in the Protestant whose idea of worship is to get something for himself. We commend this rule to the notice of the Bishop of Reading, and, having studied it, cease to wonder at the ignorance of ordinary courtesies displayed by the board.

MEDICINE AND POLITICS.

PRACTITIONERS of medicine, like other people, have the unquestionable right to occupy themselves with politics and to take sides according to their convictions. We will even go further and say that it is the bounden duty of all citizens, no matter what their professions or occupations may be, to assume a fair share in the conduct of public affairs and do their best to promote the welfare of the State whereof they are members. It is only as private individuals, however, that medical men can claim the privileges of partisanship. In everything that concerns purely professional and scientific matters they have no nationality. A medical practitioner, more perhaps than anyone else save a minister of religion, has the right to say with Terence, *Homo sum; humani nihil a me alienum puto.* Unfortunately, this noble sentiment is far from being universally acted up to, especially on the Continent, where political feelings are far too often allowed to gain the upper hand. Some months ago a very flagrant exhibition of international intolerance occurred at Antwerp, and we are sorry to learn that the solution of continuity which then took place has not yet been healed or even bridged over. A German physician, having established himself professionally in that ancient city, sought and obtained admission to the local medical society. But no sooner was his membership an accomplished fact than a strenuous, though happily unsuccessful, attempt was made to cancel the election. Upon this a number of malcontents seceded in order to start a society of their own; and in spite of the utmost efforts of the leaders of the profession in Antwerp to bring about a more desirable condition of things the regrettable schism still continues.

THE NAVY ESTIMATES.

MR. GOSCHEN has made his Ministerial statement of navy policy. Upon the general question of the new shipbuilding programme and the large increase to the navy we are simply concerned in common with every other citizen. It is almost universally considered a wise and necessary measure for the protection of our Imperial interests, and one that has to be adopted on the same principle that prudent men endeavour to safeguard their interests and those of their families and their property by effecting insurances. The events and actualities of the present time have been more and more forcing the subject upon the attention of the nation. Apart from these general considerations, however, there are some subjects which may fairly claim our special notice. To begin with, we heartily concur in Mr. Goschen's method of dealing with our future naval cadets. Every naval medical officer will agree with the proposal to advance the age of boys entering the service by a year, with the substitution of a college on shore for the training-ship *Britannia*, and with the attempt to lessen or do away with the cramming or forcing system so generally followed at present. To think of the loss of air and healthy exercise and of the long-continued study and mental strain entailed upon lads of tender age by the present system of preparing for the competitive examinations, and to remember that the potential Drakes, Nelsons, Collingwoods, and Cochranes, and naval commanders of the future must spring from the ranks of these lads, is calculated to raise the eyebrows of astonishment, as the Germans say. If there be a desire to deprive the boys of their spirits, courage, independence, and individuality, to stunt their growth and development, and make them shortsighted, the system is a good one for the purpose. It is only owing to the fact that the course of this sort of training is happily not a very long one, that the natural buoyancy of youth cannot be altogether repressed, and because of the free open-air life that follows, that we manage to get such good results as we do. But a hatred of books is induced by the forcing process, which boys often never afterwards get over. As regards the *Britannia*, it is no longer suited for its purposes; it is

not sufficiently large and well ventilated for the numbers of its occupants; and it is inconvenient, moreover, for the purposes of study and discipline. So far, then, we are heartily with Mr. Goschen. We are glad, too, that it is proposed to build a new hospital for 600 beds at Chatham in place of the present old and obsolete building occupying a limited site and without any proper provision for the isolation of infectious cases, and wards for the accommodation of seriously injured patients. We presume that the increased naval force will cause some additions to be made to the Medical Service and that additional barracks and hospitals will also be required and have to be erected. There does not seem to be any difficulty about the enlistment of boys for our future seamen, as they are stated to have offered themselves in such numbers that it has been found necessary to raise the standard twice during the year.

DAIRY FARMING.

IN a recent issue we dealt with some points relating to the food-supply of the nation, and reasons were adduced why, in view of the declining profits derivable from wheat growing, dairy farming should more and more engage the attention of the British agriculturist. Lord Vernon's article in the current number of the *Nineteenth Century* gives a large amount of important facts and data relating to this subject. The "dairy interest," the writer informs us, "is now tottering on the edge of a precipice, not, as many would wish to persuade us, because the British dairy farmer has deteriorated, but because seasons have been disastrous and trade bad." The season of 1893 with its prolonged drought was most disastrous to the English dairy farmer. The amount of hay from clover and artificial grasses received in Great Britain in 1893 was only half that of 1894, and the quantity of milk produced decreased from 20 to 30 per cent. "On June 30th, 1893, the number of milch cows in the United Kingdom had diminished by 106,396, and on the same date in 1894 by 194,965. During the same period the cattle of all ages had decreased by 738,621." It will thus be seen that the results of the great drought were not confined to one year, but made themselves even more apparent in the succeeding year. This is only what might have been expected. Ireland suffered much less than England and Scotland, her hay crop of 1893 having been equal to the average of the last ten years. It is calculated that each milch cow produces about 500 gallons of milk annually. The production of milk in the United Kingdom was 52,998,500 gallons less in 1893 than in 1892, and 97,211,500 gallons less in 1894 than in 1892. Reckoning the price of milk at fivepence per gallon, the former decrease represents a loss to the farmer of £1,104,136 and the latter a loss of £2,025,239. The inevitable result arising from this state of things in respect to British dairy farming was to stimulate foreign competition both as regards milk and butter. Hence we find that the import of butter, which was 2,183,009 cwts. in 1892, had risen to 2,574,835 cwts. in 1894, and the import of milk, which was 733,491,024 gallons in 1892, had risen to 855,144,560 gallons in 1894. "A current of trade such as the above," says Lord Vernon, "once stimulated is not easily stemmed; and in the first eleven months of 1895 the importations have been 234,424 cwts. more than in the corresponding eleven months of 1894. If we are overwhelmed by the same quantity in the near future, and our dairy herds resume their normal number, dairy farmers will find it difficult to weather the storm unless the wages of the working-class materially rise and the consumption of milk and milk products grows in proportion." From the point of view of public health this large and increasing import of milk and butter raises serious questions. These are eminently perishable articles and likely to suffer in quality during transit, so that it seems highly probable that they often reach our shores in a state that falls much short of ideal purity. While it is eminently desirable that milk and butter should be cheaply supplied to our urban populations it seems the natural course that with a climate such as ours the supply should come chiefly from native sources. The quality of English butter is often found to be defective, and the reason is that in times of prosperity the demand for milk is so great that the English farmer finds it more profitable to sell milk than to make butter or cheese. The case of Wales, Scotland, and Ireland is different. England has one cow to provide milk for thirty-two people, Wales for six, Scotland for nine, Ireland for three. Hence the amount of milk available for making butter and cheese is often small in England, but ample in the sister countries. Lord Vernon advocates the establishment of creameries in districts where butter must of necessity be made, and alludes with praise to the excellent work which Mr. Horace Plunkett has accomplished in this matter in Ireland. Lord Vernon does not believe that the British dairy-farmer has anything to learn from his foreign rivals and believes that any attempt on his part to imitate continental methods will be simply a waste of time and money. He looks for a remedy for existing evils rather in the general establishment of creameries, in the appointment of inspectors and consulting experts, in rigid precautions against adulteration and unfair foreign competition, and in improved railway facilities. We need hardly stop to point out how important this subject is from the point of view of national health and well-being. An adequate, cheap, and absolutely pure supply of milk and milk products is one of the most important objects that can be contemplated by the politician or the philanthropist.

"THE TREATMENT OF PAIN."

IN the *Berliner Klinische Wochenschrift*, 1896, Nos. 4, 5, and 6, Dr. Goldscheider has published an interesting series of articles on "The Treatment of Pain." He commences by stating that in spite of the very different diseases in which pain is a prominent symptom, and the different intensity of suffering in those diseases and the idiosyncrasies of patients, yet some attempt may be made to classify the methods adopted for dealing with this symptom. He then proceeds to divide "pain" into several classes according to its direct cause. In the first there is actual pain or suffering produced by excitation of the sensory nerves. In a second class the pain is much less distressing, lasts longer and produces a general sense of discomfort, and is well expressed by the German word "Weh!" To this class belong slight headaches, the discomfort of dyspepsia, &c. A third class of "pain" depends upon an increased cerebral irritability, the so-called "mental pain." In a large number of cases the treatment of the pain is the same means as is adopted for the treatment of the disease, but in such cases certain principles are involved, a knowledge of the cause of the pain, and the possibility of dealing with it therapeutically. With regard to the latter point two divisions may be made, in the first of which the pain is dependent on a true affection of the nervous system, and in the second of which the pain is secondary, dependent on pathological changes in other tissues, such as in inflammations, new growths, &c. Whilst in the second group the treatment of the pain is secondary to that of the causal condition, in the first the treatment is directly applied for the relief of the pain, and in many cases this is all-sufficient for the disease. The remedies employed for the relief of pain may be classified thus: 1. The irritability of the affected part of the nervous system is treated by depressing anodynes, narcotics, cold, or electricity. Amongst these morphia holds a prominent position. Belladonna, hyoscyamus, &c. are also useful, and

in some conditions of the nervous system bromides, especially when the pain partakes of the characters of the second division described above. In similar conditions the "anti-neuralgics" are often successful. 2. Remedies which act by counter-irritation: blisters, sinapisms, liniments, and plasters, and the use of the faradaic brush. Dr. Goldscheider adds that these remedies act, not by the hyperæmia which they produce, but by the sensory effects which directly follow, and he enters very fully into the theory of such action. 3. Means which bring about changes in the circulation: local bloodletting, cold, heat, and hydro-therapy. 4. Massage and graduated exercises. Under the latter head he includes movements which are employed in neuralgia of the legs and arms, and for painful joints. 5. Means which are employed to act directly on the central nervous system: hypnotism and suggestion.

A QUESTION TO BE FACED.

THE medical officer of health for the Rye (Sussex) rural sanitary authority has called attention to the earnest need of the neighbourhood for an isolation hospital. There is yearly a large influx of a very susceptible and dangerous class—the hop-pickers, who literally swarm into and through the union from London, Brighton, Hastings, Maidstone, and the coast in both directions; and, further, the shipping in the harbour of Rye, which is within the area covered by the report, carries on a trade with Rotterdam, Cherbourg, the Baltic, and other ports. The medical officer urges that a solution of the difficulty might be found by some arrangement with the Rye urban sanitary autho ity, and advises his council to again take the matter up. He also recommends the serious consideration of the adoption of the Local Government Board's model by-laws for dealing with the immigrant fraternity. The health of the district, it should be stated, was last year very satisfactory. There were but four mild cases of scarlet fever, two of erysipelas, and one (fatal) of puerperal fever. Influenza had been epidemic, but the total corrected rural death-rate was but 14·4 per 1000 in a population of 7597.

PROFESSOR KITASATO'S WORK IN TOKIO.

DR. A. NAKAGAWA sends us the following interesting communication. "*Serum Treatment of Diphtheria.*—Dr. Kitasato has just published a detailed report of 353 cases treated at the institute with the serum prepared under his supervision. For those who have no access to the original a few brief extracts may be of some interest. *Mortality:* Professor Kitasato collected from reliable sources 26,521 cases of diphtheria in Japan previously to serum-therapy, with 14,996 deaths (56 per cent.); while of 353 cases treated here from Nov. 13th, 1894, to Nov. 25th, 1895, there were only 31 deaths (8·78 per cent.). There is reason to believe that the mortality can still be lowered if the treatment could be commenced early in the course of the disease. Thus in 110 cases in which injections were made within forty-eight hours after the invasion all ended in recovery. On the other hand, of 33 cases treated after the eighth day of the disease 11 were lost. Some of the patients were brought into the institute in a moribund condition, and 6 children died within five hours after admission, 6 more within ten hours; altogether 21 cases (two-thirds of the total mortality) were lost within the first twenty-four hours. As to the effect of the serum on the course of the disease the first thing to be noted is (*a*) the fall of temperature; in many cases the defervescence was almost critical, and it takes place usually at the end of twenty-four to forty-eight hours. Secondly, (*b*) the separation of the false membrane, which takes place, as a rule, after the return of the temperature towards the normal. Very large casts of the trachea and larger bronchi have been coughed up. (*c*) Urticaria-like eruptions were observed in very many cases, being in some quite severe and annoying. They, however, disappeared in a few days without any treatment. (*d*) In 4 cases marked albuminuria was observed at the time of admission. In these cases albumin disappeared from the urine in the course of the treatment. Pyrexia was accompanied by albumin in the urine, but there was no reason to believe that any renal trouble was caused by the injections. (*e*) Five cases developed paresis of the soft palate. I wish to note, in conclusion, that microscopic as well as culture examinations were made in every case, and Dr. Kitasato's report only deals with those cases in which Löffler's bacilli were demonstrated to be present."

WOMEN AND HOSPITAL BOARDS.

A MOVEMENT—which the test of time alone can prove to be good or bad in its effects—favouring the admission of women to seats upon hospital boards of management seems to be in progress. The example set at Edinburgh by the election of Miss Louisa Stephenson has been followed at the Royal Hospital, Portsmouth, by the addition of four women members to its committee of management and the admission of two to the House Committee. The ladies who were selected, at a somewhat noisy meeting of the subscribers, to fill the post were Miss Agnes Weston, whose experience of Portsmouth must by this time be both extensive and peculiar; Mrs. Ward, a lady guardian; Mrs. Will Hawksley, and Mrs. Guise Tucker. The resolutions, which met with great opposition, were brought forward by the late honorary chaplain of the institution (the Rev. W. Hawksley), who had resigned his position in consequence of the refusal of the then committee of management to allow ladies to visit in the lock wards of the institution.

THE WORKING CLASSES AND OUR HOSPITALS.

MESSRS. HORATIO MYER AND CO. of the Surrey Iron Works, Vauxhall-walk, having received a letter on the financial straits of Guy's Hospital, arising from the depreciation of landed investments, write to the *Times* commending the system pursued at their works since 1892, by which the men, when paid their wages, mostly put in a box on the pay-desk a penny or a halfpenny, or whatever they feel inclined. At the end of the year the firm adds an amount equal to that contributed by the men, and so a sum varying from £10 in 1892 to £25 in 1896 is sent to the Hospital Saturday Fund. Messrs. Myer and Co. testify that "the working classes do not desire to be the recipients of eleemosynary aid." It is certain that these classes have been more anxious to contribute to hospitals of late years than they were. But we are scarcely satisfied with the statements in Messrs. Myer and Co.'s letter. The subscriptions do not seem to be such as to imply any systematic or deeply conscientious effort—"a penny or a halfpenny or whatever they may feel inclined" does not suggest any great feat of self-denial on the part of either masters or men. It is gratifying to be assured that the working classes do not desire eleemosynary assistance. But there are some indications on the other side. There has been manifest lately, especially since the establishment of the Hospital Saturday Fund, a disposition to regard hospitals as places to which the working man could go as of right and demand attendance for the ordinary ailments and accidents of his family. This is an entire misconception of the *raison d'être* of our hospital system and one which cannot be too soon removed. Hospitals are essentially charitable institutions for the reception of cases of a gravity beyond the ordinary means of a working man. And for meeting such cases there is a great reserve of charity and pity in all classes. But Messrs. Myer and Co. and others will make a great mistake if they think that the voluntary hospital system can be

maintained except on the eleemosynary system. If this element is to be done away with a very different scale of subscriptions from that of a penny or a halfpenny will have to rule.

THE DIRECT REPRESENTATIVE FOR IRELAND.

THE registered practitioners of Ireland have elected Mr. W. Thomson to be the direct representative of the profession of Ireland in the General Medical Council. Dublin will be more convinced than ever that it is for medical purposes Ireland and represents the whole profession. The registered practitioners cannot henceforth complain that it should be so. It would certainly have been a variety to have seen in the Council a practitioner from the provinces of Ireland and representing their medical life and needs. And the theory of direct representation in Ireland seems to require some such selection. But it has never had the support of such a selection. It is complimentary to men in the consulting and hospital ranks of Dublin that they should be elected by the profession generally as its representative. The opponents of the principle of direct representation must allow that it has not been blindly used to represent merely one branch of practice in any division of the kingdom, but rather for the selection of good men. Mr. Thomson is an M.A. (*hon. causâ*) of the Queen's University, M.D. and M.Ch., and F.R.C.S.I. His sympathies are with the surgical side of medicine and he is surgeon to the Richmond Hospital. He is besides general secretary and editor of the Transactions of the Royal Academy of Medicine in Ireland. It would appear that the direct representation of Ireland has been put into good hands, though they be Dublin ones, and that in the discussions of the Council Ireland will be well represented.

ENGLISH MORTALITY ASSIGNED TO ALCOHOLISM.

THERE are few branches of statistics in which it is more necessary to observe caution than in basing conclusions upon statistics of the causes of mortality. The necessity for this caution should not, however, deter us from discussing the true import of mortality statistics presented to us in the reports of the Registrar-General. It is needless to point out to those whose duty it is to certify causes of death "to the best of their knowledge and belief" the serious difficulties that surround the certification of death to which an excessive use of alcohol has more or less directly contributed. Under these circumstances it would be useless to expect a near approach to actual accuracy in the statistics of deaths assigned to alcoholism. The Registrar-General's figures on this subject, however, deserve consideration. The recently issued annual report shows the annual rate of mortality assigned to chronic alcoholism in England and Wales in each of the twenty years 1875–94. The recorded annual rate per million persons living from this cause has shown a remarkably steady increase during this period. The actual lowest rate in these twenty years was 26 per million in 1880, and the highest was 57 per million in 1893. In the first four years of this period, 1875–78, the annual rate averaged only 29 per million, while in the last four years, 1891–94, the recorded rate averaged 52 per million, showing an increase of 79 per cent. Can these figures mean that the death-rate from alcoholism has nearly doubled in the twenty years? Or are they to be explained by the more accurate and courageous certification of the cause of deaths due to alcoholic excess? There has been undoubtedly a very considerable decline in the proportion of deaths attributed to diseases of the liver during the last twenty years, and we know that the Registrar-General now addresses to certifying practitioners a steadily increasing number of inquiries concerning ambiguous certificates, but it is difficult to avoid the conclusion suggested by the figures noted above, that they imply, at any rate, some real increase in the death-rate from alcoholism. The figures bearing upon the recorded death-rate from this cause among males and females are interesting, and to a certain extent more trustworthy, as there appears to be no reason why the probable increase of accuracy in certifying this cause of death should affect the recorded death-rate of one sex more than another. The death-rate of males from alcoholism increased from 38 per million in 1875–78 to 60 per million in 1891–94; among females the rate increased in the same periods from 20 per million to 46 per million. Thus the increase in the recorded rate was equal to 58 per cent. among males and to no less than 130 per cent. among females. It is therefore impossible to avoid the conclusion that, whatever may be the actual increase in the death-rate from intemperance implied by the Registrar-General's statistics, the increase must have been relatively far greater among females than among males. It should be stated that the deaths referred to "delirium tremens" are not included under the heading "chronic alcoholism" and that the death-rate from this cause remained practically stationary during the twenty years.

THE ROYAL COMMISSION ON TUBERCULOSIS.

THE announcement made in the House of Commons on the 3rd inst. to the effect that it had been decided to reappoint the Royal Commission on Tuberculosis and to extend the scope of its inquiry so that it might further inquire and report on administrative procedures available for reducing the amount of tuberculous material in the food supplied by animals to man, is one which we are unable to receive with satisfaction. Two out of the five members who heard the evidence which has been taken are dead; they both held the post of chairman of the Commission, and Sir George Buchanan, who succeeded Lord Basing in that position, and to whom the report is largely to be attributed, brought to bear upon the work a combination of administrative, scientific, and medical knowledge which it will be difficult to replace. But a commissioner of some such stamp will be essential to secure public confidence as to "administrative procedures." We had hoped that this matter, which has been pending for years, and on which the late Commission had been sitting ever since July, 1890, was ripe for action. It is one of the gravest importance to the public health and one that calls for no delay that can by any means be avoided.

MEDICAL LIBRARIES IN AMERICA.

AN interesting paper on the development of medical libraries in America was read on Jan. 11th before the Medical and Chirurgical Faculty of Maryland by Dr. James R. Chadwick, librarian of the Boston Medical Library Association. The earliest of the American medical libraries was that of the Pennsylvania Hospital in Philadelphia. It was commenced in 1762 and has increased steadily until it has now reached 15,000 volumes. The library of the College of Physicians in Philadelphia was begun in 1788, and in 1864–65 was almost doubled in size chiefly by the gift of 2500 volumes from Dr. Samuel Lewis, whose eventual donations were nearly 10,000 volumes. Between 1882 and 1886 its growth was very rapid, owing to the receipt successively of the libraries of Dr. William F. Jenks, Dr. Alfred Stillé, Dr. Samuel D. Gross, Dr. I. Minis Hays, Dr. John S. Perry, and the library of the Obstetrical Society of Philadelphia. Between 1880 and 1882 Dr. S. Weir Mitchell contributed $2000 as a journal fund, and subsequently, when president, was the means of further benefiting the collection, which now contains 49,000 volumes and 28,000 pamphlets. The library of the New York Hospital was founded in 1776, and now numbers 22,000 volumes, but has practically no pamphlets. The library of the Surgeon-General's Office in Washington

was begun in 1845, and in 1865 contained less than 2000 volumes; but in that year Dr. John S. Billings was placed in charge of the collection, and at once conceived the idea of developing this nucleus into a grand national library. By importuning Congress year after year he secured large annual appropriations of money (the annual appropriation for the purchase of books has averaged nearly $7000 from 1867 to 1895 inclusive), and the result of his labours is the most complete medical library in the world, consisting of 116,800 volumes and 191,000 pamphlets. The publication of the index catalogue of this library, the first series of which, in sixteen volumes, was begun in 1879 and completed in 1895, will, when the new series of five or six volumes is issued, be practically an index to all the medical literature of the world up to the end of this century. The library of the New York Academy of Medicine was commenced in 1847 and now contains 33,100 volumes and 13,000 pamphlets. The medical department of the public library of Boston was founded in 1882 and now includes 19,600 volumes. The Boston Medical Library Association, of which Dr. Chadwick has been the librarian since its foundation in 1875, has had a rapid growth from the outset, and now contains 26,000 volumes and 23,500 pamphlets. The summary of Dr. Chadwick's paper in the *Maryland Medical Journal* also gives some useful suggestions for the guidance of librarians and bibliographers.

DEATH DURING THE ADMINISTRATION OF ETHER.

WE are indebted to Mr. Thompson, the resident surgical officer, for the notes of the following death under ether at Leeds Infirmary:—The patient, aged fifty-two, was admitted under the care of Mr. Pridgin Teale for a large abdominal tumour. She was a stout, pallid, unhealthy-looking woman. At 8.40 A.M. on Oct. 21st, 1895, ether was administered to her from a Clover's small portable regulating inhaler. There was no struggling, the pulse remaining regular although somewhat hurried. The abdomen was opened and a large amount of ascitic fluid escaped, revealing the presence of a large sarcomatous tumour occupying both sides of the body and growing from an ovary. After tying the pedicles, the tumour having been removed, the abdominal cavity thoroughly sponged out, and the abdominal wound about to be closed, the respiration and circulation suddenly ceased. The tongue was pulled forward, artificial respiration performed, and a faradaic current applied to the præcordium without avail. Laryngotomy was also practised, but life was extinct. Four ounces of ether had been given throughout the seventy minutes which had elapsed while the operation was in progress. A necropsy revealed secondary growths in the lymphatic glands and in the liver, while the kidneys, which weighed fifteen and three-quarter ounces, showed interstitial nephritis. Mr. Pridgin Teale regarded the death as "due in a great measure to the feeble condition of the patient under a rapid development of ascites from malignant disease." The deaths under ether which are reported from time to time require a very rigid scrutiny. If the account given above covers all the phenomena of the anæsthesia there can be no doubt the death was due to the severity of the prolonged operation upon a patient in an exhausted and anæmic condition. It would be of interest to learn whether any cyanosis or premonitory failing of respiration occurred before the final cessation of the breathing and whether there was much hæmorrhage during the operation. So terrible a condition could hardly have been dealt with save at the cost of severe surgical shock, and it would appear that the fatality was due to that, although occurring under ether. That ether does produce shock by leading to lowering of the bodily temperature has been more than once insisted upon, but it is hardly probable that any other anæsthetic would have produced less shock, so that the selection of ether for this desperate case appears to have been a judicious one.

THE NEW PHOTOGRAPHY.

DURING the past week we have been working in THE LANCET Laboratory with a vacuum tube provided with a platinum disc at an angle of 45° as the anode terminal, which apparently serves to reflect the "x" rays directly on to the photographic plate. It is much more rapid than any tube previously in use, and gives excellent definition of the bones of the hand. The tube was supplied by Messrs. Newton and Co., of Fleet-street, and by appointment we should be pleased to show the apparatus at work in THE LANCET Laboratory to those of our readers who are interested, and to undertake the photography of a few simple cases, which must be only such as are likely to be instructive from a medical point of view.

THE SPANISH LOSSES IN CUBA.

THE world seems just at the present time full of wars and rumours of wars—war actual and potential. Spain, we are told by the Madrid press, will have sent out to Cuba up to the 10th of the present month nearly 118,000 men, in addition to the 13,000 who were in the island when the hostilities began. The official return of the casualties during the first year of the insurrection shows that only 406 perished in battle or from wounds, whereas 3472 died from yellow fever and other diseases. The cost of the undertaking to the Spanish Government is of course very great in comparison with the financial resources of the nation. As regards the state of the Spanish medical service in Cuba and the hospital organisation and arrangements in that island little or nothing seems to be known.

LUNACY REFORM—THE CURATEL SYSTEM.

OUR attention has been called by Mr. Chas. Heneage to the system of dealing with lunatics (and habitual drunkards) obtaining in Austria under what is termed the "Law of Curatel," whereby patients after their discharge from asylums are still subjected to surveillance. Mr. Heneage has himself drawn public attention to this subject in connexion with the Lanchester case, and has advocated the suppression of private asylums, with the transfer of some of them to the State, the abolition of the Lunacy Commissioners and the formation of an International Medical Commission of Lunacy, composed of Austrian, German, and English medical men, with the introduction into this country of the Austrian system. Professor Schlangenhausen, who is an authority on this subject, has published[1] some comments on these proposals, and we are indebted to Mr. Heneage for the text of this article. Professor Schlangenhausen thinks it hardly practicable to abolish private asylums in Great Britain, but considers that these institutions should be placed under State control, and that there should be a State body of experts entrusted with the duty of deciding as to the mental condition of persons confined in such asylums, which should only be permitted to be conducted by specially instructed medical men. He has no doubt at all as to the expediency and necessity of abolishing the Lunacy Commissioners, on the ground that laymen, however well informed, are incapable of deciding scientifically whether a person is sane or insane. The mixed commission suggested by Mr. Heneage might, Professor Schlangenhausen thinks, be useful in the period of transition from the existing to the new system, but it would be superseded by the appointment of the State board of

[1] Wiener Medicinische Presse, Feb. 9th, 1896.

experts, who would in future report on the mental condition of patients in every public and private asylum. The appointment of such State lunacy guardians from amongst specially educated and qualified physicians in various provincial centres would bring the English system into harmony with the Curatel system, considered by Professor Schlangenhausen, in spite of some defects, to be vastly superior to our method both as regards the welfare of the patients and the protection of the public.

THE NEW DIRECTOR-GENERAL OF THE ARMY MEDICAL SERVICE.

NOTWITHSTANDING that we were recently told in the House of Commons that the appointment of a successor to Sir William Mackinnon was under consideration, and that a further announcement would be made later, it seems to have been the general opinion that the matter had been already decided and that the statement was merely a conventional form of reply to a question in the House. It was rumoured that the appointment of Surgeon-Major-General Jameson was virtually made by the late Secretary for War and recommended to the present one; if so, the recommendation has now been carried out, according to an announcement in the *Times*. As will be seen from our "Services" column the medical department seems to be drifting into an unsatisfactory and discontented condition.

MULTIPLE NEURITIS IN YOUNG CHILDREN.

AT the last meeting of the Neurological Society of New York Dr. Graeme M. Hammond read a paper on a series of cases of multiple neuritis in infants occurring in the city of Bridgeport, Connecticut. There were ten cases in all, and the ages ranged from four months to four and a half years. In the majority of cases there were distinct premonitory symptoms—headache, vomiting, and fever, followed by paralysis, commencing in the lower extremities, spreading so as to involve the upper, sometimes involving the trunk muscles and even those of deglutition. There was pain, both spontaneous and on movement, and the nerve trunks were very sensitive to pressure. There was abolition of knee-jerks and altered electrical reactions. The youngest child affected died of exhaustion after the muscles of deglutition were involved. No similar cases were discovered in neighbouring towns. This brief account of an exceedingly important series of cases is taken from a short summary of the paper referred to in the *Journal of Nervous and Mental Diseases*. We look forward with interest to the publication of the complete account, and it will be of particular importance to know to what extent recovery took place in those cases and whether there was any evidence that the anterior horns were involved in the inflammation as well as the peripheral nerves.

THE PREVALENCE OF MEASLES.

THERE can be no doubt that there is at the present time a remarkable prevalence of measles, which in its widespread distribution throughout the country resembles the influenza outbreaks of the past few years. As with influenza so with measles there is no means of ascertaining the actual incidence, since in hardly any town is this highly infectious malady included in notification returns; but in the attendances at public elementary schools and in the returns of deaths ascribed to measles we have some indication of the extent and severity of the epidemic "explosion." In London last week the number of deaths (126) was the highest reached since June, 1894. Mr. Wynter Blyth, in speaking of the increased prevalence in Marylebone, regrets the lack of notification which, even in the absence of hospital isolation, might be of service in limiting the spread of the disease. He thinks, however, that hospital isolation is desirable and that the shorter period required for treatment in the case of measles as compared with scarlet fever would obviate the need for such extensive accommodation as is requisite to cope with the latter. In many large towns the measles mortality is quite as high as in London—e.g., Birkenhead, Manchester, Salford, Sunderland, Leeds, Birmingham, Leicester, and Norwich, whilst reports of more or less extensive outbreaks leading to the closing of the schools or to steps being taken towards that end are reported from such widely separated places as Burnley in Lancashire, Whitchurch in Shropshire, Wednesbury in Staffordshire, and Gawcott in Bucks.

THE MEDICAL LICENSING BODIES AND MEDICAL AID ASSOCIATIONS.

THE attitude of the qualifying bodies towards those of their diplomates who hold office in medical aid associations is becoming very important. A correspondent lately said that his College—the King and Queen's College of Physicians, now the Royal College of Physicians, of Ireland—"now exacts from all who seek its diploma a solemn undertaking that they will neither hold office in nor associate themselves professionally with anyone holding office in any medical aid association." We have been at some pains to ascertain the exact facts as to the views of the College. There is nothing in the declarations signed by Members and Licentiates on the subject. The College, however, has passed a resolution on the subject which no doubt is the basis of the statement made by our correspondent. If all men were so loyal to the authority of their College and to the spirit of its traditions we should not now have so many things to lament in wrong methods of practice. The following is the resolution of the College on the subject: "That the Royal College of Physicians of Ireland desire to express their disapproval of their Licentiates accepting office in medical aid associations as at present conducted in England, inasmuch as the independence of the physician is destroyed by the system, and the services of the physician are used so as to produce a profit for lay persons."

A PROBLEM IN DIAGNOSIS.

IN a recent number of the *Medical Magazine* an article appears by Dr. Gowers relating a case of peculiar interest and importance. The patient was a student aged twenty-one, with a distant family history of gout and tubercle, and subject to periodical headaches. One day in October, 1894, he went to a swimming-bath, and on coming out had a peculiar sense of fulness and confusion in the head. The following day he had a headache such as he was accustomed to, and Dr. Uhthoff of Brighton, his medical attendant, found the pulse a little rapid and irregular and the temperature slightly raised. A few days later there was swelling of the left upper eyelid and the lid could not be raised. The eyeball was protruded forward and downwards, and there was chemosis of the conjunctiva. The displacement of the eyeball caused diplopia, but the fundi were normal. Two days later the right eye was similarly affected, and on the following day there was an attack of epistaxis relieving the headache which had become severe. Six days after the first swelling was noticed there were a few slight convulsive attacks affecting chiefly the upper lip and the right arm and leg. In the afternoon of the same day there were two severe general convulsive attacks. The next day the swelling of the eyelids was less, the temperature became normal, and the headache subsided. In considering the nature of the case Dr. Gowers directs attention to four points: (1) the symptoms followed a rheumatic course and occurred in a man with a family history of

gout; (2) the symptoms developed with fever; (3) the course of their development was suggestive of an inflammatory process; and (4) they indicated enlargement of the orbital contents. The conclusion is arrived at that the case was one of orbital cellulitis of rheumatic origin, and the opinion is expressed that the more severe inflammation on the left side may have spread to the membranes, causing irritation sufficient to evoke manifestations at first unilateral and subsequently general. The treatment recommended was inunction of mercury and the administration of salicylates. The patient gradually recovered and remained well for six months. He then had an attack of perityphlitis, from which also he recovered under the use of salicylates.

NERVE GRAFTING FOR INJURY.

AMONG the clinical memoranda in a recent number of the American *Medical News* is a very interesting account of an important case. The report is furnished by Captain Bradley, Assistant-Surgeon in the United States Army. The patient was a trooper who, by a fall from his horse, fractured his humerus. The fracture was an oblique one, and it was complicated from the first by paralysis affecting the extensors of the forearm, giving rise to the characteristic wrist-drop, and no doubt due to injury to the musculo-spiral nerve at the time of the accident. The fracture quickly healed, but the paralysis persisted in spite of treatment by massage and battery. The muscles of the forearm were atrophied, but still reacted to galvanism and to direct percussion. Operation was advised with the view of suturing the nerve if possible, but it was found, after a hard nodular enlargement involving the whole trunk had been removed, that the divided ends could not be brought together. A dog had previously been secured and its sciatic nerve isolated under anæsthesia. A piece of this, five centimetres in length, was taken and carefully sutured into position between the ends of the patient's musculo-spiral nerve and the wound closed and dressed. Union took place by first intention. Unfortunately, on account of change of station, the patient passed away from Captain Bradley's observation four weeks after operation. At that time it was thought that there were indications of returning sensibility over the area of distribution of the affected nerve. All efforts to obtain subsequent details of the patient's progress have been unavailing. It would have been very interesting to know whether any improvement resulted from this procedure.

DEATH UNDER CHLOROFORM AT A DENTIST'S ROOMS.

IN the Report of THE LANCET Commission appointed to investigate the subject of the Administration of Chloroform and other Anæsthetics from a Clinical Standpoint[1] attention was drawn to the alarming number of deaths under chloroform which have occurred while dental operations were in progress. It is matter of no small regret that dental practitioners should not be better informed upon these matters than to permit the employment of chloroform upon their premises as an anæsthetic. There is ready to hand a safe and convenient anæsthetic in nitrous oxide gas, which fulfils all the requirements of the dentist, and this anæsthetic should in dental cases be resorted to rather than chloroform. Had this been done in the case given below there is little doubt that a valuable life might have been spared. A youth aged fifteen required eleven teeth to be taken out to qualify him for admission into the Royal Navy. An appointment was made by a dentist with the youth's own medical man to give chloroform. We do not wish to pillory this particular gentleman, with whom we deeply sympathise, for the terrible disaster with which he is associated; we are aware that very many practitioners adopt the plan he resorted to and recognise it as a routine procedure in dental operations. We must, however, most emphatically denounce it as a dangerous and undesirable one. Chloroform was administered from a towel—a method which easily induces an overdose of the anæsthetic—and the pulse was kept under observation. We read nothing of the respiration or the pupil, though doubtless they, too, were kept under observation. The dentist removed one tooth and finding the second somewhat difficult some delay arose, during which the boy partly came round. The chloroform was readministered and the remaining teeth were removed. Then the patient died. In a report which is before us we read that the medical man in his evidence said, "Turning round again he noticed a change in the patient's condition." It is significant how often "going wrong" occurs when the back is turned. The necropsy — performed by an independent medical man—revealed, we are informed, the startling fact that on examination of this boy, who is described as being in "perfect health" and as having been passed for the Royal Navy at headquarters except as regarded his teeth, that his lungs were in such a condition that "the boy could not have lived above two years." Surely no lesion so serious could have escaped the examination at headquarters and that of the medical man who expressly states he scrutinised the lad before giving the chloroform. The posture of the patient is not mentioned; probably the boy was in a dentist's chair—a position of body unsuited for the administration of chloroform.

[1] THE LANCET, March 18th and 25th, April 1st, 15th, and 22nd, May 6th and 20th, and June 17th, 1893.

SERUM THERAPEUTICS BY RECTAL INJECTIONS.

DR. CHANTEMESSE recently read a paper before the Société Médicale des Hôpitaux in Paris on some investigations he had made in administering various forms of antitoxin serum by means of rectal instead of hypodermic injections. He pointed out that various unpleasant symptoms developed after the hypodermic use of the antitoxins, such as pain at the site of puncture and urticarial or erythematous eruptions. At the present time this treatment is also employed in some diseases in which a septicæmic condition is more or less pronounced. When the liquid is at all irritating (and this irritation may depend upon the method of injection, the idiosyncrasy of the patient, or defective cleaning of the syringe) acute pain may be caused, and at the site of injection there may be a considerable amount of swelling and even the formation of an abscess. Again, in some cases the mere fact of a hypodermic injection causes the greatest distress to the patient. Dr. Chantemesse adopted the plan of introducing the serum by rectal injection in twenty cases, and convinced himself that the fluid was easily and quickly absorbed, and no untoward effects were noted in any of the cases. The bowel was first washed out by means of a simple enema, and then by means of an ordinary enema syringe and a gum elastic catheter of medium size and about twenty centimetres long the serum was introduced into the rectum. This method of administering the serum, even in repeated doses, caused neither pain nor any other unpleasant effects, and was never followed by cutaneous eruptions. The curative effect seemed equally as efficacious as when the antitoxin was given by hypodermic injection. The usual improvement followed as indicated by the general condition of the patient, the fall of temperature and improvement in local conditions, disappearance of albuminuria, &c. The question of the specific action of the serum, the rapidity of the same, and the absence of unpleasant or injurious sequelæ having been solved, the respective doses have also to be considered, whether an equal or larger dose should be

administered by the rectum than is given hypodermically. Dr. Chantemesse is of opinion from the experience of his twenty cases that the same effect is produced on the disease by the same dose, whether this be given by hypodermic injection or per rectum, but at the same time he considers that further investigations should be made on this point. In severe cases of erysipelas he injected into the rectum 200 or 300 cubic centimetres of the Marmorek serum. This quantity was readily absorbed and no ill-effects followed. In local treatment the serum was mixed with five times the quantity of lanoline, which Dr. Chantemesse considers an excellent application for erysipelatous lesions. By this treatment pain, redness, and swelling were greatly lessened. He has also treated three cases of diphtheria by injecting the antitoxin into the rectum. The cases responded quite as well as did those in which the serum was given hypodermically.

A SESSIONAL meeting of the Sanitary Institute will be held at the Parkes Museum on Wednesday, March 11th, at 8 P.M., when Mr. Augustus C. Scovell, Chairman of the Ambulance Committee of the Metropolitan Asylums Board, will open a discussion on "The Isolation of Cases of Infectious Disease in the Metropolis." The chair will be taken by Dr. Thorne Thorne.

DR. CHRISTOPHER CHILDS, M.A., M.D. Oxon., D.P.H. Camb. and Eng. Conjoint Board, has been appointed an Assistant in the Hygienic Department at University College, under the direction of Professor Corfield. Dr. Childs will begin a course of special lectures and demonstrations on Bacteriology in Relation to Hygiene in May next.

DR. HENRY HICKS, F.R.S., of Hendon, is the new president of the Geological Society, an appropriate honour upon which the profession will congratulate him.

THE council have appointed Dr. Allan MacFadyen to act as hon. secretary of the British Institute of Preventive Medicine.

Pharmacology and Therapeutics.

INJECTIONS OF PHOSPHATE OF SODA IN DISEASES OF THE NERVOUS SYSTEM.

M. CHUCRI NAAMÉ, physician to the Municipal Hospital of Jerusalem, has used hypodermic injections of phosphate of soda in the case of a woman suffering from syringomyelia, and the treatment was followed by some improvement in the patient's condition. The solution used was phosphate of soda, four grammes; glycerine, six grammes; and distilled water fourteen grammes. Disappearance of pains, return of sleep, and diminution of articular thickenings are said to have taken place after a month's treatment, during which time fifty injections were given.

TREATMENT OF SOME SYMPTOMATIC ANÆMIAS.

In the treatment of saturnine anæmia it is recommended to combine iodides with iron and to give sufficient iodide without too much iron. M. E. Hirtz advises the following formula: iodide of potassium, 1 gramme; syrup of iodide of iron, 30 grammes; and simple julep, 100 grammes. The iodide greatly facilitates the elimination of the lead. As adjuvants milk diet and purgatives may be used, especially those having cholagogue properties. The following is recommended as a pill: extract of belladonna and extract of hyoscyamus, of each 1 centigramme. In cases of anæmia due to malaria hydrotherapy is useful, especially in those cases where there is enlargement of the liver and spleen. The cold douches should, however, be given with prudence, lest they should bring on an accession of the fever. In this type of anæmia cinchona and arsenic act better than the iron preparations.

TREATMENT OF CHILBLAINS.

The following formula is recommended as being efficacious in cases of chilblains by C. Boeck: ichthyol, resorcin, and tannin, of each 1 grm.; water, 5 grm. To be rubbed on the affected parts every night. In a few minutes it forms a varnish on the skin, and under its influence, not only the chilblains disappear, but also the diffuse œdematous swellings of the hands and fingers. The drawback to this preparation is that it blackens the skin during treatment, and for eight or fifteen days afterwards. In the case of those people whose occupations prevent them soiling their hands resorcin may still be employed in the following manner: resorcin, 2 grm.; mucilage of gum arabic, and water, of each 5 grm.; and powder of talc, 1 grm. To be rubbed on at night. The following is recommended for the relief of stings of insects: solution of ammonia, 7 parts; collodion, 3 parts; and salicylic acid, 0·3 parts.

AIROL IN CORNEAL ULCERS.

Dr. Gallemaertz, writing in the new Brussels medical journal *La Policlinique* of Jan. 15th, records several cases—some of them very severe—of corneal ulcer in which he found airol,[1] which is a kind of iodised dermatol and may be described as gallate of oxyiodide of bismuth, extremely valuable. In one case, that of a child aged four, there was an abscess of the cornea with extensive hypopion. The state of the cornea necessitated the scraping of the abscess by means of a small curette; then airol was applied and the eye bandaged, the dressing being repeated daily. On the ninth day the bandage was removed and atropine dropped into the eye. The patient was discharged recovered on the eighteenth day, a small leucoma only remaining. In another case, where a strumous child had had repeated attacks of vascular keratitis with photophobia and lacrymation, the ulcerated centre of the lesion was merely touched with airol and a bandage applied. The child slept well and was free from pain the first night; this dressing was repeated daily, and in less than a week recovery was complete. With regard to the method of application Dr. Gallemaertz at first tried dusting the airol over the surface of the eye, but found it produced so much temporary pain that afterwards he contented himself with touching the affected spot with cotton wool dipped in airol, previously applying cocaine in cases where any considerable quantity of airol was to be employed. In conclusion he says that airol is greatly to be preferred to iodoform.

INJECTIONS INTO PULMONARY CAVITIES.

Dr. Guido Scarpa has employed ichthyol injections into phthisical cavities in the lungs with great success, the clinical symptoms becoming much less marked. Indeed, in some cases where the treatment was persistently employed for several months the patients were apparently restored entirely to health. The solutions used varied in strength from 1 to 15 per cent., a weak one being used at first and stronger ones later. The dose was also gradually increased from 15 to 300 minims. The injections were administered every three or four days.

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[1] See THE LANCET, June 22nd, 1895.

EAST LONDON NURSING SOCIETY.—The annual meeting of the East London Nursing Society will be held in the saloon at the London Mansion House on Tuesday next, March 10th. The chair will be taken at 3 P.M. by the Right Hon. the Lord Mayor. The object of the society is to nurse the sick poor of East London in their own homes by means of trained resident nurses, and the report which will be submitted at the annual meeting states that during the year 1895 130,483 visits have been made and 5438 persons nursed. Urgent appeal for funds is made, and whilst mentioning the steady maintenance of the staff as showing the continued support given to their work, the committee regret to call attention to the serious financial difficulty in which they find themselves. Some of the old subscribers have died, and though there has been a slight increase in the always fluctuating supply of donations the result is that their income has been far from sufficient to support the old establishment, and but for the relief afforded by legacies the deficit would have been largely increased.

THOMAS WAKLEY,

THE FOUNDER OF "THE LANCET."

A BIOGRAPHY.[1]

CHAPTER X.

Abernethy v. *Hutchinson, Knight and Lacey.—The Law of Copyright in Lectures.—Abernethy's Position as Lecturer and Surgeon.—His First Application against* THE LANCET. *—The Arguments Employed and their Ill Success.—The Fomentation of Bad Feeling.—A Second and Successful Application for an Injunction.—Wakley's Further Motion. —The Importance of the Case.*

ON Friday, Dec. 10th, 1824, Mr. Abernethy, the senior surgeon of St. Bartholomew's Hospital and a great figure in the scientific world, applied to the Court of Chancery for an injunction to restrain the publishers and printers of THE LANCET from issuing his lectures.

The law of copyright in lectures is not very clear or definite. Lectures are peculiar in their character and differ from books, inasmuch as, though they are made public by delivery, they have not necessarily a visible form capable of being copied. Nevertheless, it has been thought right by the legislature to afford them the protection of copyright. The situation of the law with respect to the protection of lectures is exactly the same now as it was in 1823. The author of any literary composition has the right at common law to prevent its publication until he has himself made it public. He does not necessarily forfeit this right by delivering his composition as a lecture. His right after delivery will be decided by 5 and 6 William IV., c. 65:—"An Act for Preventing the Publication of Lectures without Consent." By this Act the author of any lecture or his assignee may reserve to himself the sole right of publishing the lecture by giving two days' notice of the intended delivery to two justices of the peace living within five miles from the place of delivery, unless the lecture is delivered in any university, public school, or college, or in any public foundation, or upon gift or endowment—such lectures being free. Whatever may be the origin of this provision it is little known and probably never, or very seldom, acted upon, so that statutory copyright in lectures is very seldom acquired. If the lecture has not been printed—when it falls under the head of a book—and has not been duly copyrighted according to the above proceeding, what constitutes dedication to the public? This is what the publication of Abernethy's lectures has decided, and Lord Eldon's judgment in the case forms a much-quoted precedent.

The fact that Abernethy objected to the publication of his lectures was perfectly well known to Wakley, for his disapproving words had been actually reported as he expressed them to his class; while certain members of that class, in obvious deference to what they knew to be their lecturer's wish, had on two occasions put out the lamp in the theatre, designing by that means to baffle the unknown shorthand reporter. In THE LANCET of Dec. 11th, however, the tenth lecture of the course was reported in full, with no reference to previous threats or the commencement of legal proceedings. The subject of this lecture was Irritative Inflammation, Erysipelas, and Furunculus, and the reporter was a little cruel to the lecturer in his faithful reproduction of the colloquial peculiarities employed by Abernethy in delivery; otherwise nothing in that issue of THE LANCET tends to show that Wakley was aware of the legal exception that had been taken to his proceedings.

"If I am wrong I shall be very happy to have my errors pointed out and corrected. *I'll be hanged* if erysipelas is not always a result of a disordered state of the digestive organs. ..... *Egad*, it is a travelling disease, and, as I say, the parts are disposed to swell. ..... If it be seated in an unimportant part *in the name of G*—— let it go on there. ..... O, said the dresser, it is a case of erysipelas and he only came in last week. *Good G*——*!* said I, is it possible? ..... Ho! he had *his jawing-tacks on board*, as a sailor would say."

These are among the specimens of Abernethy's mannerisms which were set down in THE LANCET's unchastened report, and it can be readily understood that the speaker found it a little embarrassing to read his expletives in cold print, though he may have felt certain that they had added force to his style and point to his meaning as they fell hot from his lips, and had given a fillip to the interest of his hearers, as apt, probably, then as now to consider attendance at lectures a great bore. The feeling that he was occasionally made to look foolish by the fidelity of the reporter may have been his determining reason in making his application, but it was well understood that as much in the initial proceedings as in the later he was only constituting himself the mouthpiece of his order—the order of lecturers attached to medical schools, whose equanimity was much endangered by Wakley's irresponsible behaviour. Abernethy was second only to Sir Astley Cooper in the surgical hierarchy of London, and was regarded by his juniors with peculiar reverence because in him they saw the great exponent of the great John Hunter's teaching. Failing Sir Astley Cooper, who was bound by his word not to object to the publication of his own lectures, and therefore as an honourable man was bound to refuse to assist others in questioning Wakley's legal position in the matter, Abernethy was the strongest man to pit against Wakley to dispute his legal status in the affair; just as, failing Sir Astley Cooper, Abernethy was the best-known surgical lecturer likely to attract readers to the paper. That Abernethy was put up to fight the battles of his colleagues is undoubted, for he was quite a shrewd, astute man, and would not have had any motion made on his own behalf unless he had felt that in so doing he was conforming to the general wish of others in his position.

When the subject of the motion was mentioned to the Lord Chancellor, Lord Eldon, his lordship put a case to himself and concluded by saying, "I shall make short work of it;" and if his assumption of the questions that would be before him had been completely correct he would have been justified in doing as he promised, but, as will be seen, the great lawyer took a narrow view. The following is the rather extraordinary dialogue which took place between the Lord Chancellor, the Solicitor-General (Sir Charles Wetherell), who represented Abernethy, and Mr. Horne, who was retained by Wakley in the interests of the defendants, Mr. Gilbert Linney Hutchinson, his publisher, and Messrs. Knight and Lacey, his printers.

LORD ELDON: The case is to decide whether a party attending lectures in any branch of philosophy or learning for his own information is at liberty to publish the lectures for his own advantage. I shall make short work of it.

Mr. HORNE: The case is not of the nature your lordship supposes.

The SOLICITOR-GENERAL (who, as can be readily understood, was well pleased with such an obvious proof of bias on the part of the court in favour of Abernethy): Your lordship's mind has caught the whole point in the case, and, in fact, there is nothing more to be decided.

Mr. HORNE: His lordship cannot decide a case he has never heard.

With this view the Lord Chancellor concurred, and being unable to hear the case fully on the day of the application for the injunction, in spite of an appeal of urgency on the part of the Solicitor-General, postponed further hearing to

[1] Chapters I., II., III., IV., V., VI., VII., VIII., and IX. were published in THE LANCET, Jan. 4th, 11th, 18th, and 25th, Feb. 1st, 8th, 15th, 22nd, and 29th respectively.

the date suggested by Mr. Horne—viz., Dec. 18th. His Lordship said that no articles were to be made use of in the interim, with the exception of the number then in the press and to be published the following morning. "Let us have no more bleeding until I have examined the patient myself and decided upon his case," was his jocular pronouncement of his interdiction. He evidently felt that his expression of opinion was ill-timed, and Sir Charles Wetherell's commendation of his attitude, meant to confirm him therein, caused him to veer. His premature remark did not, however, escape the notice of the press, although he had consented to a postponement of the trial, for the *Morning Chronicle* of Dec. 11th, 1824, contained the following satirical stanzas of an uncomplimentary sort upon his abuse of his position:—

THE LORD CHANCELLOR AND "THE LANCET."

"A wonder happened t'other day;
I scarce know how to word it:
THE CHANCELLOR, who loves delay,
A case *at once* decided—nay,
Before he even heard it.

"Horne and Wetherell well might stare
To find he never falter'd.
If known next session I know where
Some persons may their speeches spare,
If Eld-n *be so alter'd.*

"Who knows to see *this* change in him
But it may lead to others:—
Befriend the Catholics for a whim;
C-nn-ng will cease to sneak and trim,
And Plunket call them *Brothers.*"

On the second day of the hearing of the motion, Dec. 18th, 1824, an affidavit was put in by Abernethy which at great length cited the circumstances of the delivery of the lectures and gave an account of his calling forth the "hireling of THE LANCET" from the ranks of his students without response. He bitterly inveighed against the appropriation of his copyright, but at the same time protested that he would never withhold from mankind any words of his the publication of which was for the true good of the public. The affidavit of the defendant Hutchinson contended that the publication was made exactly for the good of the public, and, such being the case, free publication ought to be permitted without legal restriction. He further tried to show that there was no precedent for the recognition of copyright vested in verbal utterances. Long and technical speeches from counsel on both sides followed. Sir Charles Wetherell attempted to set up a claim for exclusive copyright in that the lectures were delivered in a private capacity to private pupils. Mr. Horne, on the other hand, maintained that it was Abernethy's public duty to deliver himself of surgical teaching in a public place for the public good; he held that the colloquial style of the lectures sufficiently proved absence of all intention to set up a claim for literary copyright in the way such a claim should be advanced—viz., by issuing the lectures as a book; and, lastly, he alleged that Abernethy's lectures, being merely a *replica* of John Hunter's teaching, contained no matter in which Abernethy had any peculiar property. The Lord Chancellor on the third day decided that he had heard quite enough and, contrary to his suggested opinion of the previous week, refused to grant an application and withdrew the interim order of injunction. But Lord Eldon several times in the course of his judgment said that he would hear an argument upon the point whether there had been a breach of trust or of implied contract. Thus it was temporarily decided that words used in lectures for the public benefit had no copyright vested in them and were liable to be published without reserve for the good of humanity.

THE LANCET of Dec. 18th, 1824, did not contain a continuation of the report of Abernethy's course of lectures, because until the evening of that day the interim order of injunction was in force. The issue of Christmas Day also contained no lecture, being virtually a supplement devoted to an exhaustive *résumé* of the proceedings in Chancery during the preceding week; but the issue of Jan. 1st, 1825, contained lectures XI. and XII., being in direct continuation of lecture X. published on Dec. 11th, 1824, and showing that Wakley's agent had not omitted to take the notes necessary for the subsequent transcription of Abernethy's words, although the Lord Chancellor's decision in the matter was still in abeyance. This resolute and unflinching determination to have his own way in the matter, as far as the law and his own ideas of right and wrong would allow him, was characteristic of the man. He was pugnacious, and to be slapped in the face did not suit his pugnacity; but there was more behind the methodical manner, in which he was careful to leave no word in the course of Abernethy's lectures unreported and no argument, legal or sentimental, of Abernethy's supporters unrefuted, than a love of fighting for a good liberal cause. He was also exceedingly proud of his journal, and at that time an interdiction of the publication of medical lectures might have made a serious difference to the circulation of THE LANCET and the position of its Editor. Many readers would have been lost; the Editor would have had much laborious prospecting to undertake before he could hope to strike an adequate substitute for the scientific wealth contained in the soil of the hospital lecture rooms; and he would have been convicted of having done wrong. But these things do not wholly explain his resolution in the matter of the reporting of lectures and the importance that he attached to a continuance of the practice. As there was more than pugnacity behind his attitude so there was more than self-interest. And the third factor, which dominated the other two entirely, was the reformer's spirit. To report the lectures of the surgical teachers at the big schools was to make a bold and novel attack upon the privileges of a class of men whom individually he might and often did admire as great in the profession that he loved, but whom collectively he considered to be corrupt, selfish, and feeble. Wakley knew that in reporting Abernethy's lectures he was defying and not a little frightening the hospital lecturers, and that amused him. He knew that terror of the verbatim reporter would compel many of them, not usually so circumspect, to be punctual in their attendance, thoughtful of what they had to say, and careful of how they said it, and this result he considered a worthy one for the paper to accomplish. And, lastly, he counted upon issuing to all medical men who required it the assistance that first-class teaching must always be. It was not Abernethy against whom he was measuring himself, for we have his own words repudiating the suggestion at the very time when the interim interdiction was in force, but all who stood between him and the carrying out of his prefatory promises to the profession that they should read these lectures in his columns and be improved by them.

"Had Mr. Abernethy," he writes in a leading article on Dec. 18th, 1824, "consulted his own judgment and inclination rather than the support of that corrupt and rotten system of which he is unfortunately a part, we are very certain that he would not have appeared in Chancery for the disgraceful purpose of throwing new obstacles in the path of medical science. The object of those with whom Mr. Abernethy is in concert is not so much to prevent the weekly publication of his lectures as to effect the destruction of this publication. THE LANCET is not suited to their taste or interest. ....."

His action in the matter was all a part of the reforming spirit. He did not intend to give way to the pleasure of the class whose privileges it had been his intention from the beginning to dispute, and he was most absolutely resolved not to forfeit his word to the rank and file, whose moral and pecuniary support he had demanded on the specific ground that he would publish these lectures for their instruction.

Having so far won the day and successfully resisted Abernethy's attempt to obtain an injunction he would, we cannot help seeing, have been better advised to let the matter drop. It would have been more graceful and more politic to continue upon the course he had originally shaped for himself without further reference to the defeated arguments of his adversary, but further polemics were in a manner forced upon him by the acerbity with which Abernethy and his supporters received their check. Abernethy, the essence of whose complaint was that Wakley had reported him too faithfully, so that the value of the copyright in his lectures was gone, they having been brought *verbatim* and at a moderate price to the attention of the only public they could hope to enjoy, now said:—

"If the Editor of THE LANCET should still publish my lectures I only know, from what I have seen of those parts of them which have appeared in the newspapers, that they represent me as one of the most pert, balderdash fellows in existence. Any person would say on reading those paragraphs: 'Well, I always thought Mr. Abernethy a well-informed man, and somewhat of a scientific man, too, in the practice of his profession, but I really think he must be a very weak man.'"[2]

Wakley was not the man to allow this aspersion of the accuracy of his journal to go unnoticed. Again, while the *Times* and the *Morning Chronicle* were to a certain extent of opinion that Wakley was right in publishing professional lectures to the profession, one of the contemporary medical journals, *The London Medical Repository*, edited at the time by Copland the lexicographer, expressed disapprobation in terms of unbounded indecency:—

"As to the honesty of the transaction," ran the offensive passage, "it cannot require consideration. A man may just as well go to dine at a *restaurateur's* and, after satiating his own appetite with that portion of the *bonne chère* for which he paid on his own account, carry off the remainder of the landlord's provisions to be sold for a penny a pound to all who might choose to buy; or, perhaps, we may liken the transaction to that of insuring one's house, then setting it on fire, to obtain the large amount for which a very trifling premium was paid."

These were the kind of things that kept up the ill-feeling and impelled Wakley to enter into an elaborate explanation of his reasons for publishing Abernethy's lectures and for intending to continue to do so. Wakley could not sit quietly down under such an insult as was put upon him by his monthly contemporary. On Jan. 8th there appeared in THE LANCET a long article practically daring Abernethy to attempt to interfere again with the publication of his lectures, for it had got abroad that a second application was to be made to the Lord Chancellor upon the ground, suggested by Lord Eldon as an argument to which he would gladly listen, that Abernethy lectured to the students under the protection of an implied contract limiting their use in what they heard to aural instruction. A week later, no move in this direction having been taken by Abernethy, Wakley proceeded to demolish the two arguments which had already been put forward by Sir Charles Wetherell in favour of the injunction; an unnecessary proceeding, because on these very arguments the plaintiff lecturer had failed to obtain what he wanted. The first argument was that Abernethy had suffered probable pecuniary loss by the fact that no publisher would consider favourably the issue of his lectures in book form after they had been disseminated in sixpenny instalments among the profession. The second was that Abernethy had suffered certain pecuniary loss by the abstention of students from his classes who preferred to pay sixpence a week rather than ten pounds a year for the privilege of learning his views. The first argument Wakley did not demolish in a very workmanlike manner. He dealt some hasty blows right and left, but he hardly made his point. He replied that Abernethy's were poor lectures and that action at law had been taken because the lecturer felt that he had been placed at the bar of public criticism as a hospital teacher, and out of regard for present and posthumous fame was anxious to prevent an exposure of his ignorance. All that was good in Abernethy's lectures was, said Wakley, to be found in Hunter's works upon whom immense plagiarism had been practised, and it was impossible to imagine Abernethy enjoying a copyright in his lectures under such circumstances and ridiculous to suppose that a publisher would be found willing to issue them in a collected form. This was not a very good rejoinder on Wakley's part, because it convicted him of bad catering for his public. To the second argument his reply was crushing, for he demonstrated that the students could not abstain from attending Abernethy's lectures if they wished, because of a by-law of the Royal College of Surgeons, recently framed by the Court of Examiners, of which Abernethy himself was at the time a member. On March 19th, 1824, the Court of Examiners resolved that certificates of attendance at lectures on the theory and practice of surgery should not be received from the Court save from the professors of surgery in certain universities, or from the teachers in certain medical schools formally attached to recognised metropolitan hospitals, or from members of the honorary staffs of such hospitals. This by-law, remarkable enough on the face of it, practically compelled all the medical students in London to attend the lectures of some five persons, of whom Abernethy was one, for at that time there was no University of London, and but five hospitals—viz., St. Bartholomew's, St. George's, the United Hospitals, the London, and the Middlesex—had acknowledged schools. Westminster Hospital, though of very ancient foundation, was but a dispensary in James-street until 1834; Charing-cross Hospital was instituted in 1818, but the present building was not erected until 1831, and prior to that date the institution only enjoyed the position of a large ambulance station, having for its particular object the care of the numerous accident cases occurring in the neighbouring streets; University College Hospital and King's College Hospital were founded respectively in 1833 and 1839; and St. Mary's Hospital dates only from 1845. So that when it was pleaded for Abernethy that the publication of his lectures was likely to lead to the diminution of his surgical classes Wakley was, if unnecessarily forcible, certainly unanswerable in saying: "In the name of God, do not let us hear any more of such loathsome trash."

January, February, March, and April of 1825 were allowed by Abernethy to elapse before he made his second application to the Lord Chancellor for an injunction on the ground that his lectures were delivered to persons under an implied contract not to publish them, but at the end of May the application was made and the hearing was commenced on June 10th. Abernethy renewed his application obviously rather in the interests of other lecturers than his own, for at the time his lectures were not being printed in THE LANCET, having been discontinued at the completion of the course some two months previously.

"He may possibly have vanity enough to suppose that we shall reprint his lectures," wrote Wakley. "On this point his mind may be perfectly at ease; our pages have been already obscured with his hypothetical nonsense during six tedious months, and when we read the proof of the last paragraph we felt relieved of a most intolerable incubus."

The result of the second application was that Abernethy was successful. The Lord Chancellor in his judgment to a certain extent went back on himself. He held that the lectures could not be published for profit, that if any pupil who had paid only to hear them afterwards sold them to the publisher he infringed the law, and that the publishers in so

[2] THE LANCET, Jan. 9th, 1825.

publishing them enacted "what this Court would call a fraud in a third party." He dwelt upon the practical difficulty that existed in bringing home this fraud to anyone where no manuscript was in existence, but did not otherwise allow that there was any difference as far as the author's rights were concerned whether the lecture was delivered from a manuscript or as an extemporary effort. This is the judgment which forms the precedent upon which cases of infringement of copyright in lectures are always decided, and in text-books upon the subject it is the case that is always quoted.

Upon Nov. 28th, 1825, Mr. Horne applied to the Lord Chancellor to dissolve the injunction, granted against Wakley at the previous session, restraining him from continuing to publish or sell Abernethy's lectures in THE LANCET. The motion was unopposed, and Lord Eldon dissolved the injunction. This judgment did not, and does not affect the value of his previous judgment with regard to the legality of the publication of lectures, for the dissolution was granted upon new facts which were brought to the knowledge of the Court. Wakley had all along contended that it was monstrous that Abernethy should by one Act confer upon himself as a member of the Court of Examiners of the Royal College of Surgeons the exclusive right of lecturing in the character of a public functionary, and by another claim the protection due to private lecturers on the ground of the injury which his reputation or pecuniary interests might sustain from the issue of his lectures in cheap form. After the injunction Abernethy had delivered an address to the students on the occasion of the opening of the session at St. Bartholomew's Hospital and this address had appeared in full in THE LANCET, precisely as if no injunction existed, on the ground that it had been delivered by Abernethy in a public capacity. No retaliatory steps were taken by Abernethy. Shortly after this, a few days only before Wakley's application for a dissolution of the injunction, Abernethy tendered his resignation as a surgeon to the governors of St. Bartholomew's Hospital whilst desiring to remain a lecturer to the institution. The governors refused to accept his resignation as a surgeon unless he also tendered his resignation as a lecturer. This recognition of an inseparable tie between the two posts of surgeon and lecturer reached Wakley's ears and supplied him with the very point in his argument for a dissolution of the injunction that he required. "Of course Abernethy's lectures were public property," he said: "they are delivered in his public capacity as surgeon to a public charity and the students of the metropolis must attend them, or lectures from some five or six other functionaries similarly situated, whether they like or no." The facts of Abernethy's offer of resignation to the governors of St. Bartholomew's Hospital were set out in the form of an affidavit, and, no one appearing to represent Abernethy in opposition to a motion for dissolution of the injunction, Lord Eldon removed the restriction.

The case of Abernethy *v.* Hutchinson, Knight and Lacey, which may seem to have been dealt with at unnecessary length, was an important one and warrants the attention that has been given to it. The determined manner in which it was fought had a great effect on the prestige of THE LANCET. It showed the Editor to be a resolute man willing to do battle for his opinions, and it revealed the new paper as one with a large circulation and a substantial pecuniary foundation. That both combatants did not shine to advantage in their every utterance did neither of them any personal harm, for all who watched the quarrel saw in their excited and occasionally illogical remarks only evidence of collision between two self-willed persons determined to look upon a matter from opposite views. Abernethy fought for his order and Wakley fought for his readers. That each of these eminently clear-headed men should by force of circumstances have been driven to contradict themselves out loud shows how very angry they became at different stages of the dispute. Wakley was led to pooh-pooh Abernethy's admirable qualities as a lecturer, having previously extolled them; while Abernethy, the whole gist of whose claim upon THE LANCET for infringement of copyright was that the reports were accurate, was ill-advised enough to insinuate that they were very far from being so. Each, on the other hand, showed remarkable ingenuity in advancing his own opinions, and each won a victory that gained him credit without hurting his foe.

(To be continued.)

THE PUBLIC HEALTH (SCOTLAND) BILL.

BY those who are in a position to make a comparison it is now generally acknowledged that better local machinery for the administration of public health has not yet been brought into use than that which was created by the Scottish Local Government Act of 1889. The sanitary reform which has ever since been in progress in rural Scotland is the best evidence of the excellent work turned out by that machinery. It is also acknowledged that the Public Health Acts of Scotland which it is the duty of the authorities to enforce are the most unsatisfactory and imperfect of any that are in operation in these realms. They are antiquated and complicated, and generally defective. For years it has been the ambition of sanitarians in the northern kingdom to change all this. While they have been making such progress as was possible under the Act of 1867 England and Ireland and London have been the *corpora vilia* on which all kinds of legislative experiments were being made for the benefit of Scottish and other onlookers. The idea has been that what Scotland had lost by delay should in some measure be atoned for by the perfection of the legislation which would ultimately be granted her. When the present Government came into office with its huge majority and its policy of social legislation there was a general belief that the time and the men had come. Nor is the hope to be now abandoned, though the shape which it is proposed that the new legislation should take was not expected and is not to be commended. In explaining the Bill which he has introduced in the Upper House Lord Balfour of Burleigh stated that he intended in the meantime to introduce a Bill to amend the Public Health Act of 1867 and later to introduce another Bill to codify all the laws relating to public health and to swallow up both the Act of 1867 and the amending Act as proposed for the present session. Now if there is one thing more than another which has been the curse of sanitary legislation in Scotland it is the constant passing of amending Acts and the constant staving off of complete and comprehensive measures. The Act of 1867 is already modified by at least five separate amending Acts passed specifically as amending Acts. In addition the various Local Government Acts and the Burgh Police Act really constitute in some of their sections other amending Acts, not to speak of such Acts as those dealing with infectious diseases, food and drugs, dairies, workmen's dwellings, &c. In these circumstances it is little wonder that Scottish sanitary authorities are dead tired of all makeshift legislation. What they want is not an additional amending Act, but the very reverse. They desire one consolidating and all-embracing measure to which they can turn for direction in every matter relating to public health, and which they can enforce by legal preceedings in all circumstances in which legal proceedings can be conceived to be necessary. No doubt Lord Balfour's intention in his amending Act is good. He wants to see how his proposals will be received, and in view of his experience thus gained he will by-and-by frame his consolidating Bill. There ought to be no doubt whatever as to the reception to be met with by his present Bill. He should be told that every clause and line of it will be gladly discussed and decided on in the most friendly spirit, provided only he clearly understands that the clauses are not to go through the preliminary purgatory of an amending Act, but are to pass straight into their final abiding place in a consolidating

law of public health. The sooner this consolidating Bill is ready the better will it be for all concerned; but even if another session had to elapse before it could be put into shape it would be better to wait for this than in the meantime to place on the statute book a measure which even its author acknowledges to be both temporary and incomplete.

We fail to see that there should be any great difficulty in compassing the whole task during the present session. Lord Balfour is unquestionably following the safe and statesmanlike course with regard to the individual clauses of his amending Bill. He is ransacking the English and London Acts for what is best in them, and in adapting the provisions of these Acts to Scotland he will be able to urge that he is only introducing what has already stood the test of experience. Let him continue to do this with regard to his consolidating Bill—which he says is at present on the stocks—and there need be little delay in getting it launched into the House of Lords. Its launching, indeed, might appropriately follow on the completion in committee of the adjustment of the amending clauses which he has already put before Parliament. And these clauses, till then held *in retentis*, could be comfortably bestowed wherever they would be most useful in the newly-launched consolidating Bill; but, above all, let him be dissuaded from attempting to float the clauses independently of the all-inclusive Bill. Scotchmen are credited with being distinctively and naturally logical. Lord Balfour, we may almost assume, is logical enough to know that his purpose, both primarily and ultimately, ought to be not to complicate, but to simplify and systematise any legislation which he wishes to see carried into practical effect. The legislation is not to be for mere show, but for the solid advantage of the country which he is so well able to represent in Her Majesty's Government.

AUTOCARS FOR MEDICAL MEN.

IN THE LANCET of Jan. 4th we published an illustrated article on horseless carriages, believing that the introduction of the autocar into this country will be widely appreciated by members of our profession. From a hygienic aspect the introduction of horseless carriages upon our metropolitan thoroughfares will be of far-reaching importance, while from the points of view of utility and economy the question is one of great interest. In France and other countries self-propelled vehicles have been in practical use for some time. In this country, however, a promising enterprise is checked by the laws relating to road locomotion, and until these laws are altered little or no progress can be made in testing practically the general usefulness of the cars and motors already on the market. Public opinion, however, is strongly in favour of removing the present restrictions, and strenuous efforts are being made to interest our legislators in the matter. Early last month a deputation from the Self-propelled Traffic Association, introduced by Sir David Salomons, waited upon Mr. Chaplin to discuss the question of remedial legislation concerning horseless carriages, and received from the President of the Local Government Board assurances to the effect that he fully sympathised with their object; that a Bill dealing with the subject was now in an advanced stage; and that, with Mr. Russell, he would do his best to carry the Bill through. From this assurance, and from the fact that various municipal bodies have expressed their approval of an amendment of the present laws relating to the matter, there seems every reason to hope that it will not be long before the right to run self-propelled vehicles upon highways will receive legal sanction. It is a good augury for the movement that the Prince of Wales is taking an active interest in the question. Quite recently His Royal Highness paid a visit to the Imperial Institute and personally tested some autocars placed in that building preparatory to the opening of an "International Exhibition of Motors (Motor Carriages, Cycles, &c.) and their Uses," which will be held at the Imperial Institute from May 9th to August, 1896. At this exhibition the latest developments of carriages whose motive power is oil, steam, electricity, or compressed air will be shown and demonstrated as well as the practical application of motors to all kinds of vehicles. Another exhibition of great interest will, we understand, be held at the Crystal Palace during June (International Horse and Horseless Carriage and Roads Locomotion Exhibition), and it will embrace the whole subject of road locomotion in ancient as well as modern times.

For horseless carriages to become generally popular with individual owners they must present certain features of utility and practicability which are perhaps not so necessary in the case of a public conveyance. Mr. Claude A. P. Truman, L.R.C.S. Irel., &c., who is taking a great interest in the question, has written to us suggesting that the following points are essential in an autocar for medical men: (1) it must be moderate in price; (2) light and handy; and (3) elegant in appearance. With regard to the first point the prices at present asked for these carriages will have to be considerably lowered if they are to become universally popular. From £180 to £200 is too high a figure, but there is reason to believe that the two exhibitions we have referred to will promote competition and reduce the prices to a more reasonable level. With reference to the second point, judging from the carriages we have already seen, there will probably be little difficulty. That the carriages must be elegant in appearance goes without saying, and there is no reason why the conventional style of carriage should not be modified and the æsthetic combined with the useful. Until we have had an opportunity of examining a larger number of vehicles it would be invidious to compare the merits of the few accessible motors on the market, but it would appear that in point of speed the petroleum motors lead the way. Electricity and steam are also being used as a motive power, and their relative merits will shortly, we hope, be put to practical test.

ARMY MEDICAL REPORT FOR 1894.

(THIRD NOTICE.[1])

As regards the army serving abroad we may say that, speaking generally, the health of the troops in 1894 was good and that there was no severe epidemic or matter of unusual importance to be chronicled during that year. At Gibraltar the death-rate was only 2·97 per 1000, although the admission and constantly sick rates had somewhat increased, as compared with those of the previous year and with the similar average ratios for the preceding ten years. Enteric fever caused 26 admissions and 6 deaths, being in the ratios of 5·5 and 1·27 per 1000 respectively. Other forms of continued fever caused 112 admissions. The medical officer of the station hospital considers that the milder and shorter cases differ in their etiology from the severe and more protracted ones; the latter, he believes, being due to some specific cause, such as drain effluvia. None of these cases, however, proved fatal, thus differing from cases of enteric fever, which in some respects they resemble. At Malta, with an average strength in 1894 of 7911 (excluding the Royal Malta Artillery), the death-rate was 5·81 and the admission rate 639·5 per 1000 respectively. Febrile and venereal diseases were the chief causes of sickness, but these were nevertheless less prevalent than usual. Enteric fever caused 42 admissions and 12 deaths, giving ratios which are lower than those of the preceding year or the average rates for the previous ten years. Dysentery was the cause of 24 admissions and 1 death. Under the head of simple continued fever there were 834 admissions and 4 deaths. At Gozo there were two epidemics of influenza. Altogether 126 cases of that disease occurred in the garrison in 1894. There was some overcrowding of the barracks, but as about half the troops slept during the summer months under canvas in their vicinity no injury to health could be traced to this cause. The new barracks at Imtarfa were not completed in 1894. Separate buildings for the treatment of infectious diseases, and hospital accommodation for the women and children, are referred to as important requirements for this garrison. We may pass over Cyprus, with its death-rate of 3·45 per 1000, with the remark that there was no case of eruptive fever in 1894 and enteric fever had not appeared since 1890, but there were 34 admissions from simple continued fever and only 1 case of ague in that year. There is nothing calling for remark under the head of Canada, but as regards Bermuda the state of health of the troops stationed there

[1] The First and Second Notices were published in THE LANCET of Feb. 22nd and 29th respectively.

during 1894 and in previous years is not so good as it should be. The climate is delightful during the winter and attracts many visitors from the United States, and though hot and moist in summer it is not unhealthy or apparently malarious. The death-rate from all causes in 1894 was 8·51 per 1000. Enteric fever is, however, far too prevalent in Bermuda. It caused 22 admissions and 5 deaths, being in the ratios of 15·6 and 3·54 per 1000 respectively. St. George's seems to have been the chief sufferer, where 10 cases occurred—all of severe type. We strongly suspect that either the method of storing the water at this and other stations in Bermuda or the state of the drainage in allowing of soakage into the soil (coralline formation) is to blame. The somewhat regular recurrence of this fever and the liability to outbreaks of it in different years—at St. George's, for instance—call for careful sanitary investigation, in view of determining whether its causes cannot be removed. At the Mauritius, with a strength of 583, the admission rate was 1301·9, the death-rate 10·29, and the invaliding rate 20·58 per 1000 in 1894, which are nevertheless an improvement on those of previous years. Malarial fevers gave rise to 347 admissions and 3 deaths, being in the equivalent ratios of 595·2 and 5·14 per 1000 respectively. Of the total admissions under this head 210 were from remittent fever, 136 from ague, and there was 1 case of malarial cachexia. What a field this station and the West Coast of Africa present for the study of malaria and the microscopic examination of the blood for Laveran's blood parasite—the plasmodium and its varieties. The profession in this country would be glad to know what has been done in connexion with such ample opportunities as are afforded in this respect at these stations. The medical history of the Mauritius in regard to malarial fever is a somewhat singular and striking one. The island used to be healthy and not exceptionally malarious, but many years ago quite an extensive epidemic of malarious fever and dysentery occurred and was very fatal, the death-rate was enormous, and since that time this fever has been much more prevalent, especially at Port Louis and along the seaboard. The troops have of late years been to a great extent stationed in the uplands—at Curepipe—away from Port Louis. As regards India the health of the troops serving in the three commands is shown in the following table:—

	Average annual strength.	Ratio per 1000 of mean strength.					Average sick time to each soldier.	Average duration of each case of sickness.
		Admitted.	Died.	Invalided home.	Invalids discharged.	Constantly sick.		
							Days.	Days.
Bengal ...	44,160	1565·4	19·16	23·91	16·03	94·71	34·57	22·08
Madras ...	13,407	1272·2	10·37	28·86	15·29	88·71	32·38	25·45
Bombay ...	13,416	1548·9	15·50	27·21	12·22	84·83	30·96	19·99
Total ...	70,983	1506·9	16·81	25·47	15·17	91·71	33·47	22·21
Ten years 1884-93	606,344	1552·6	16·27	26·54	13·97	83·57	30·50	19·65

A table at page 107 of the report shows the influence of length of service in the country on the sickness, mortality, and invaliding, from which it may be gathered that the first year's service furnishes the highest admission-rate, the ratios of succeeding periods gradually diminishing. The highest ratio of mortality is among men in their first and second years of Indian service and lowest in their fifth, after which it steadily rises. Venereal disorders, ague, and enteric fever were the prevalent diseases; the latter (enteric fever) caused 1069 admissions into hospital and 300 deaths in the Bengal Army in 1894. The disease occurred in every district and, with five exceptions, in every station in the command. At Umballa, where there were 68 admissions and 20 deaths, the medical officer considers the character of the water-supply excludes water-borne typhoid as the explanation, and looks to defective surface- and subsoil drainage, with a fouled state of the soil, saturated with all kinds of impurities after rain, for the origin of this fever. But the difficulty of excluding contaminated sources of water-supply and other channels of impurity outside the regimental lines comes in here. Within the lines all may be sanitary, but outside them quite the contrary. Officers serving in India appear to be extremely liable to enteric fever, but children seem to be relatively but little affected by the disease in that country. We have in previous numbers of THE LANCET dealt with the remarkable outbreak of cholera at Lucknow in the East Lancashire Regiment, and need not, therefore, refer to it now.

The general health of the troops serving in Egypt, both in Cairo and Alexandria, during 1894 shows a marked improvement, and the mortality also was much reduced compared with the previous year, when almost all the troops, it is stated, had been but a short time in the country. The report on the Egypt command is an interesting one, but information about events in 1894 possesses comparatively little value when published in 1896. The Appendix contains Professor Notter's report on the progress of hygiene for the year 1895, which is always instructive, a list of operations at the Royal Victoria Hospital, Netley, with remarks on some of the operation cases, and other papers, among which we may refer to some interesting "notes" by Surgeon-Captain Russell on "Revisiting the Medical Schools," and an article on "Certain Forms of Injury to the Eye," by Surgeon-Major Simpson, M.A., M.B., derived from the results of his practice while doing duty at the Royal Arsenal, Woolwich.

ELECTION OF DIRECT REPRESENTATIVE FOR IRELAND ON THE GENERAL MEDICAL COUNCIL.

THE following is an analysis of the voting in the recent election to the General Medical Council of a direct representative for Ireland:—

Mr. W. Thomson	866
Dr. J. Cuming	757
Dr. A. H. Jacob	455
Spoiled votes	4
Votes received too late	4
Votes not recorded	682
Number of voting-papers sent out	2768

THE BRITISH MEDICAL ASSOCIATION AND MEDICAL DEFENCE.

A GENERAL MEETING of the Metropolitan Counties Branch of the British Medical Association was held at 20, Hanover-square on March 2nd to discuss (1) The Relation of the Association to the Question of Medical Protection and Defence; and (2) The Relation of the Profession to Medical Aid Societies. Owing to want of time only the first question was discussed.

Sir WILLIAM PRIESTLEY, the president, opened the meeting by pointing out the great importance of the subject under consideration and the desirability of taking as wide a view of it as possible.

Dr. LOVELL DRAGE, after pointing out some great defects in the organisation of the medical profession as a political body, moved the following resolution: "That in the opinion of the Metropolitan Counties Branch the time has arrived when the Association should take up the matter of medical defence individually and collectively."

This was seconded by Mr. NELSON HARDY, who dwelt on the necessity for immediate action and commented on the tardiness of previous councils.

Sir WALTER FOSTER, M.P., said that in the past the councils had to deal with legal difficulties which within the last few years had been removed, so enabling the memoranda of association to be altered to meet the present case much more easily than in former times.

Dr. DOCKRELL wished to clearly understand what was meant by medical defence, and proposed an amendment to the effect that all legal disabilities should be got rid of before taking any further steps in the matter. This amendment, however, after some debate was withdrawn.

The resolution was then put to the meeting and carried unanimously.

Mr NELSON HARDY, seconded by Dr. ALDERSON, proposed that a special general meeting of the British Medical Association be called to consider alterations of the memoranda

of association on the principles laid down by their legal adviser, Mr. Eustace Smith.

Dr. LOVELL DRAGE, seconded by Mr. BUTLIN, proposed that the further course of the matter be decided by the council of this branch.

Sir WALTER FOSTER, M.P., thought that these two proposals might with advantage be combined.

Finally, it was unanimously decided—"That the resolution already passed be sent to the Council of the Association with a request that they will draw up a scheme for medical defence and will submit it at an early date to a special general meeting of the British Medical Association."

"THE COMPARATIVE NUTRIENT VALUE OF MEAT PREPARATIONS."

A JOURNAL entitled *Food and Sanitation* is still yelping at us. Its latest number contains an article with the heading "THE LANCET on its Defence," which reproaches us with tardiness in response to some exposure of us which it would seem to have been making, while it finds a recent annotation in these pages upon the value of certain meat preparations to be "a model of patronising superiority." Our contemporary thinks that the nutrient value of Valentine's Meat Juice is about equivalent to that "of the water in which dinner plates are washed." We, on the other hand, know this opinion to be rubbish, and have challenged our contemporary to appoint, with our approval, an analyst of well-known repute to undertake an independent analysis, and to publish it side by side with the analysis upon which this opinion is based. No notice has been taken of our challenge, but *Food and Sanitation* quotes in support of its funny view (1) an analysis made for it by a past president of the Society of Public Analysts, unnamed; (2) a second analysis made for it by another person unnamed, who has enjoyed the same office; and (3) a "recent" analysis by Professor Chittenden of Yale University. Of the first two of these we say nothing. The figures in them do not agree with our figures, with each other, or with Professor Chittenden's figures. They have just the value that the fact of their appearance in *Food and Sanitation* gives them, and we accord them their due amount of attention by passing at once to the third, merely pointing out that the proprietors of Bovril, a preparation of which we have had on several occasions to speak in terms of well-deserved praise, will take nothing by the ill-judged advocacy of our contemporary. Professor Chittenden's "recent" analysis was not made for *Food and Sanitation*. Its source is not acknowledged by *Food and Sanitation* in its article of the latest date, but it will be found with a *complete* table in an address on the Nutritive Value of Beef Preparations read by the author before the Philadelphia County Medical Association in May, 1891. Of this table *Food and Sanitation*, in its latest appeal to Professor Chittenden, quotes only the column of figures referring to Valentine's Meat Juice, while in a previous article on the subject it quotes only this and the columns referring to Liebig's Extract of Beef and Johston's Fluid Beef. The last name it alters to Bovril. The whole table is as below.

Professor Chittenden's last sentence, which we quote, but which *Food and Sanitation* omits, defines the scope of his investigation. "In the foregoing table of analytical results," he says, "the nutritive value of the different preparations is based simply upon the total amount of proteid matter contained as compared with the amount in fresh lean beef." It will at once be seen that, looked at from this point of view—a limited view, which excludes consideration of extractives and other stimulating constituents—there are four meat preparations given by Professor Chittenden possessing superior nutritive value to Johnston's Fluid Beef, and that this must have been known to *Food and Sanitation* when it used part of Professor Chittenden's table to demonstrate to its readers that the preparation having the same analytical composition as Johnston's Fluid Beef "has enormous advantages over any meat extract preparation." We do not think that our readers will expect us to enter into a controversy with *Food and Sanitation* after this little light upon our contemporary's methods and we do not intend to return to the subject. If it pleases *Food and Sanitation* to continue to put us "on our defence," and to reproach us for "tardiness in answering its exposures," we presume it will take this course. If it finds our attitude of silence "patronisingly superior" we beg to point out that while we have no desire to patronise our contemporary we cannot be blind to the fact that we are the superior journal. Our silence, however, will proceed from a fair assumption that the editor of *Food and Sanitation* does not know how to conduct a controversy decently. We arrive at this conclusion because in the article to which we have previously alluded there is a passage headed in capital letters, "An Early Essay in Blackmail and the Result," in which we are referred for information to a well-known City firm the name and respectability of which give weight to the innuendo. This firm has no knowledge of what is meant, and authorises us to say so, and to say also that the name of the firm has been used wrongly and without sanction.

Percentage Composition of Beef Products, Analysed 1891.

Constituents.	Liebig's extract of beef.	Armour's extract of beef.	Valentine's meat juice.	Wyeth's beef juice.	Bovinine.	Murdock's liquid food.	Johnston's fluid beef.	Arlington Chem. Co.'s beef peptonoids.	Mosquera's beef meal.
Water (at 110° C.)	20·06	14·03	60·31	57·88	81·09	83·99	39·58	6·80	6·68
Solid matter (at 110° C.)	79·94	85·97	39·69	42·12	18·91	16 01	60·42	93·20	93·32
Soluble in water	...	...	...	...	...	...	50·40	48 14	31·26
Insoluble in water	0	0	0	0	0	0	10 02	45·06	62·06
Inorganic constituents	24·04	28·29	11·30	17·52	1·02	0·66	13 52	5·08	4·23
Phosphoric acid (P_2O_5)	9·13	7·28	4 00	3·94	0·03	0·09	3·91	1·40	1·71
Fat (ether extractives)	0·91	1·27	0·78	0·85	1·49	0·27	1·29	2·95	13·60
Soluble in 80 per cent. alcohol	55·72	67·92	29·15	35·08	...	...	34·10		
Total nitrogen	9·52	8·80	2·68	3·25	2·43	2 29	7 38	4·42	12·36
Nitrogen of insoluble matter	...	...	...	...	...	...	1·46	3 25	7 65
Insoluble proteid matter	...	...	...	...	...	...	9·12	20·30	47·81
Soluble albumen coagulable by heat	0·06	0·68	0·55	0·47	13·98	14·29	0	0	0
Soluble albumoses	0	0	0	0	0	0	0	5·44	11·09
Peptone...	0	0	0	0	0	0	0	1·87	18·34
Total proteid matter available as nutriment...	0·06	0·68	0·55	0·47	13·98	14·29	9·12	27·61	77·24
Nutritive value as compared with fresh lean beef (lean beef = 100)	0·30	3·50	2·80	2·40	72·40	74·00	47·20	143·00	400·00

SUPERANNUATION GRANT.—Mr. Charles Ingram, M.R.C.S. Eng., late medical officer for the first district of the Blandford Union, has been granted a superannuation allowance of £1 a week for twelve months.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Durham County District.—Dr. Eustace Hill has recently presented to the Durham county council an interesting account of an outbreak of enteric fever which occurred in the autumn of 1895 in the urban district of Leadgate. The outbreak lasted during September, October, and November, most of the cases being notified during September and the first half of October. As, however, Dr. Hill remarks, the dates of notification cannot be relied upon as indicating the dates upon which the patients were taken ill, since several of the cases were notified two or three weeks after the commencement of the illness. There were several interesting points in connexion with the disease. In the first place the percentage incidence up to forty years of age was much more marked upon the males than upon the females, but after this age the excess was on the females. This male excess may perhaps be accounted for partly by the habits and occupation of the working population, but we note that even under ten years of age the disparity still obtained. In its clinical aspects the disease presented some interesting features, such, for instance, as the absence of diarrhœa in numerous cases, and a large number of quite anomalous attacks bearing a strong resemblance to influenza, but often occurring in households where apparently were well-marked cases of enteric fever. The fatality rate of the epidemic was very small—a little over 5 per cent.—and the disease seemed to be possessed of a considerable degree of infectivity. Having regard to the rather anomalous character of the outbreak some remarks on the eruption, condition of the spleen, and the temperature would have been interesting. As to the cause of the outbreak, the Leadgate district is supplied with water by the Consett Water Company, and the same company supplies water from the same source to other districts in north-west Durham. There was thus at hand a controlling factor as regards water-supply, and by an examination of the notification returns of the other districts supplied by the Consett Water Company it was soon apparent that the pollution of the company's water at its source would not explain the outbreak, and that any question of water pollution must necessarily be of a local nature. On examining into the recent history of the water company's operations, Dr. Hill was able to elicit the fact that the main supplying Leadgate suddenly burst on Sept. 1st at a point on the reservoir side of Leadgate and from eight to ten hours the water was cut off from the town. It also seems that at dates antecedent to this the water-supply of Leadgate was turned off. The question, therefore, suggests itself as to whether during one of these intervals the water-mains supplying Leadgate may not have become specifically fouled, and a thesis of this kind seems, on the whole, the best explanation of the outburst. The district is a mining one where settlements of the ground are common, and this fact renders fracture and displacement of sewers and water-mains a not improbable matter. Although water seems to have probably been the most potent factor in the outburst, suspicion rests upon a certain milk-supply as having been at least a subsidiary cause, and the conditions which Dr. Hill's report reveals of the absence of proper control over the milk traffic of the district are certainly such as to call for speedy attention. There is the further fact in connexion with the milk-supply that many of the cows were fed in fields through which sewage-polluted streams passed, but Dr. Hill was unable to ascertain that any of the cows suffered from illness. In addition to water and milk as factors in causation Dr. Hill was led to suspect emanations from sewers and infected privies as having had some share in spreading the disease, and the recommendations with which his report closes have in view the amelioration of all the conditions likely to have had a share in causation.

Aston Manor Urban District.—Mr. Henry May, medical officer of health of this district, is always very prompt in issuing his annual report, and we have just received that relating to 1895. As an illustration of the value of isolation Mr. May observes that in his experience when a first case of scarlet fever in a house is removed to hospital, it has rarely been followed by an extension of the disease to the other members of the same family, whereas non-removal has generally resulted in extension through the household. We should have been glad of some figures in support of this statement, as really reliable evidence on this point is well worth recording, and the subject is by no means a simple one. During 1895 there were 35 cases of small-pox notified in this district, and Mr. May has added these cases to those occurring during 1893–4, and furnished a table in regard to their vaccination &c. which we here reproduce; it will be seen that there were no deaths among vaccinated children under fifteen years of age.

Ages.	Number of cases vaccinated.	Number of deaths.	Percentage of mortality.	Number of cases unvaccinated.	Number of deaths.	Percentage of mortality.	Number of cases stated to have been vaccinated, but no signs.	Number of deaths.	Percentage of mortality.
Under 1 year	—	—	—	4	3	75	—	—	—
Between 1 and 5 years	1	—	—	7	1	14	—	—	—
,, 5 ,, 15 ,,	33	—	—	11	3	27	1	—	—
,, 15 ,, 25 ,,	119	2	2	11	2	18	—	—	—
,, 25 ,, 45 ,,	140	4	3	7	4	57	1	1	100
45 years and upwards	25	1	4	1	1	100	1	1	100
Total	318	7	2·2	41	14	34	3	2	66·6

In the matter of hospital accommodation the sanitary authority are to be congratulated upon their determination to provide a separate building for small-pox well removed from human habitations.

Poole Urban District.—Dr. Herbert Lawton is endeavouring to enforce dual notification in his district, and he reports that during 1895 in only 12 instances did the householder or nearest relative fail to notify to the medical officer of health. The new scheme for the sewage of Poole seems to be advancing in a satisfactory manner, and we are glad, too, to see that Dr. Lawton's repeated recommendations in reference to a revision of the obsolete by-laws have at last been carried into effect. Dr. Bulstrode, of the Local Government Board, has, it appears, been stimulating the authority as to the condition of the dairies, cowsheds, and milkshops of the district. As far as we are able to judge from Dr. Lawton's remarks regulations under the Dairies, Cowsheds, and Milkshops Order seem to have been drawn up by the sanitary authority, but to have been allowed hitherto to remain in practice a dead letter, and Dr. Lawton requests to be supplied with copies of the regulations in order that they may be properly distributed in the district. There are few matters of more importance to the public health, more especially to the infantile population, than a proper supervision of the milk traffic of a district; and it is perfectly obvious that unless the milk vendors know what is the law relative to cleansing &c. they can hardly be expected to comply with its requirements.

Huddersfield Urban District.—In his last quarterly report Dr. Robert Kaye states that the sanitary authority of Huddersfield have resolved to furnish the medical officer of health with a supply of diphtheric antitoxin for the convenience of any medical practitioner in the district who may care to make use of it.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6468 births and 4159 deaths were registered during the week ending Feb. 29th. The annual rate of mortality in these towns, which had been 19·3 and 19·4 per 1000 in the two preceding weeks, further rose last week to 20·0. In London the rate was 20·3 per 1000, while it averaged 19·7 in the thirty-two provincial towns. The lowest rates in these towns were 10·2 in Derby, 12·2 in Cardiff, 13·7 in Burnley, 14·3 in Brighton, and 15·0 in Croydon; the highest rates were 23·0 in Bolton, 23·7 in Manchester, 23·9 in Liverpool, 25·0 in Norwich, and 25·2 in Preston. The

4159 deaths included 580 which were referred to the principal zymotic diseases, against 512 and 561 in the two preceding weeks; of these, 222 resulted from measles, 156 from whooping-cough, 91 from diphtheria, 41 from scarlet fever, 41 from diarrhœa, 29 from "fever" (principally enteric), and not one from small-pox. No death from any of these diseases occurred in Wolverhampton or in Halifax; in the other towns they caused the lowest death-rates in Burnley, Swansea, Cardiff, and Preston, and the highest rates in Birkenhead, Manchester, Salford, and Norwich. The greatest mortality from measles ocurred in Leeds, London, Birkenhead, Sunderland, Leicester, and Norwich; and from whooping-cough in Derby, West Ham, Manchester, Bradford, and Bolton. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 91 deaths from diphtheria included 48 in London, 10 in Birmingham, 6 in Liverpool, 4 in Bradford, and 3 each in Portsmouth, Hull, and Newcastle-upon-Tyne. No fatal case of small-pox was registered in any of the thirty-three large towns. There were 51 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 29th ult., against 64, 60, and 58 at the end of the three preceding weeks; 1 new case was admitted during the week, against 6, 12, and 5 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2933, against 2883, 2944, and 2937 on the three preceding Saturdays; 244 new cases were admitted during the week, against 285, 303, and 234 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 446 to 377 in the three preceding weeks, rose again to 404 last week, but were 213 below the corrected average. The causes of 61, or 1·5 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Portsmouth, Bolton, Oldham, and in eight other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Preston, and Huddersfield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the three preceding weeks, from 18·8 to 19·5 per 1000, was again 19·5 during the week ending Feb. 29th, and was 0·5 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the several towns ranged from 14·0 in Leith and 15·0 in Paisley to 20·8 in Glasgow and 20·9 in Dundee. The 570 deaths in these towns included 27 which were referred to whooping-cough, 17 to diarrhœa, 9 to measles, 6 to diphtheria, 3 to scarlet fever, 2 to "fever," and not one to small-pox. In all, 64 deaths resulted from these principal zymotic diseases, against 66 and 60 in the two preceding weeks. These 64 deaths were equal to an annual rate of 2·2 per 1000, which was 0·6 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 30 and 32 in the two preceding weeks, declined again to 27 last week, of which 17 occurred in Glasgow, and 3 in Aberdeen. The 17 deaths from diarrhœa exceeded the numbers recorded in recent weeks, and included 10 in Glasgow. The fatal cases of measles, which had been 5 and 4 in the two preceding weeks, rose to 9 last week, of which 6 occurred in Glasgow and 2 in Edinburgh. The deaths referred to diphtheria, which had been 10, 5, and 1 in the three preceding weeks, rose again to 6 last week, and included 3 in Edinburgh. The 3 fatal cases of scarlet fever showed a decline of 3 from the number in the preceding week, and included 2 in Glasgow, where the 2 deaths referred to "fever" were also recorded. The deaths from diseases of the respiratory organs in these towns, which had been 105 and 120 in the two preceding weeks, declined to 111 last week, and were little more than a fifth of the exceptionally high number recorded in the corresponding week of last year. The causes of 37, or more than 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined in the five preceding weeks from 27·4 to 19·8 per 1000, rose again to 28·5 during the week ending Feb. 29th. During the past nine weeks of the current quarter the death-rate in the city has averaged 25·2 per 1000, the rate during the same period being 19·4 in London and 17·4 in Edinburgh. The 178 deaths registered in Dublin during the week under notice showed an increase of 45 upon the number in the preceding week, and included 9 which were referred to the principal zymotic diseases, against 10, 8, and 2 in the three preceding weeks; of these, 5 resulted from "fever," 2 from scarlet fever, 1 from whooping-cough, 1 from diarrhœa, and not one either from small-pox, measles, or diphtheria. These 9 deaths were equal to an annual rate of 1·3 per 1000, the zymotic death-rate during the same period being 3·4 in London and 1·9 in Edinburgh. The deaths referred to different forms of "fever," which had been 2, 3, and 1 in the three preceding weeks, rose again to 5 last week. The mortality from scarlet fever also exceeded that recorded in the preceding week. The 178 deaths in Dublin last week included 21 of infants under one year of age, and 36 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a decline from the numbers recorded in recent weeks. Eight inquest cases and 8 deaths from violence were registered; and 67, or more than a third, of the deaths occurred in public institutions. The causes of 8, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

THE following officers have embarked for India:—Surgeon-Lieutenant-Colonel Swayne and Surgeon-Major Mitchell; and the following have arrived from India:—Brigade-Surgeon-Lieutenant-Colonel H. T. Browne and Surgeon-Majors Butt and Watson. Surgeon-Majors Hughes, Bartlett and Porter, and Surgeon-Captains Cummins and Wilson, and Surgeon-Lieutenant Spencer have arrived from Ashanti. Surgeon-Major Barker has been appointed to Dover, and Surgeon-Captain Allport has embarked for Malta. Surgeon-Captain Dunn has been transferred from India to the Egyptian Army.

INDIA AND THE INDIAN MEDICAL SERVICES.

The Queen has been pleased to approve of the following admissions to Her Majesty's Indian Medical Services:—To be Surgeon-Lieutenants (dated Jan. 29th, 1896). *Bengal:* Archer William Ross Cochrane, William Wesley Clemesha, James Alexander Black, Roger Parker Wilson, Victor Edward Hugh Lindesay, James Currie Robertson, Norman Robinson Jones Rainier, Christopher Dering Dawes, and Edmund Ludlow Perry. *Madras:* Michael Biddulph Pinchard, William James Niblock, Clarence Barrymore Harrison, Ernest Le Fevre Payne, Nicholas Purcell O'Gorman Lalor, Thomas Henry Symons, and Ernest Reinhold Rost. *Bombay:* Chintaman Ramchandra Bakhle and Krishnaji Vishnoo Kukday.

Surgeon-Lieutenant-Colonel Randolph Caldecott to be Brigade-Surgeon-Lieutenant-Colonel, subject to Her Majesty's approval, vice Brigade-Surgeon-Lieutenant-Colonel S. O'B. Banks, promoted. Surgeon-Lieutenant-Colonel Frank Hokins Pedroza, Madras Medical Establishment, retires from the service. Surgeon-Lieutenant-Colonel A. Reid, M.B., Bengal Medical Establishment, to be Medical Storekeeper, Punjab Command, sub. *pro tem.*, vice Brigade-Surgeon-Lieutenant-Colonel C. W. Calthrop, appointed Principal Medical Officer, Malakand Brigade. Surgeon-Major L. A. Wadell, M.B., Deputy Sanitary Commissioner, Northern Circle, Bengal, is appointed Chemical Examiner and Professor of Chemistry in the Medical College, Calcutta.

NAVAL MEDICAL SERVICE.

Jeremiah Sugrue, M.D., has been promoted to the rank of Staff-Surgeon in Her Majesty's Fleet.

The following appointments are notified:—Fleet-Surgeon R. W. Williams to the *Imperieuse*. Staff Surgeons: G. D. Twigg to the *Mersey;* J. H. Thomas to the *Dædalus;* Henry Harries to the *Grafton;* and J. Sugrue, M.D., to the *Buzzard*. Surgeons: H. Huskisson, M.B., and M. P. Jones to the *Victory;* E. T. Tuck, H. G. T. Major, W. R. Trythall, and J. C. Rowan, M.B., to the *Virid;* C. J. E. Cock to the *Virid*, to be lent to the *Impregnable*,

additional for duty in the *Nautilus*; W. D. Adams, M.A., M.B., and M. J. Smith, B.A., M.B., to the *Wildfire* additional for disposal; R. W. Ross, M.B., to the *Pembroke*, additional for disposal; R. J. MacKeown, M.B., to the *Jackal*; H. H. Gill, M.B., to the *Victory*; H. W. G. Green and T. W. Philip to the *Imperieuse*; and R. L. Price to the *Northampton*.

YEOMANRY CAVALRY.

North Somerset: John George Douglas Kerr, M.B., to be Extra Surgeon-Lieutenant under the provisions of paragraph 31 of the Yeomanry Regulations 1894.

VOLUNTEER CORPS.

Artillery: 1st Edinburgh (City): Surgeon-Captain G. R. Gilruth to be Surgeon-Major. 6th Lancashire: Surgeon-Lieutenant J. Lloyd-Roberts, M.D., resigns his commission. 1st Fifeshire: Surgeon-Lieutenant W. H. Goodenough resigns his commission. *Rifle*: 3rd Volunteer Battalion the Royal Fusiliers (City of London Regiment): Arthur Anthony Howell, Gent., to be Surgeon-Lieutenant.

THE ITALIANS IN EAST AFRICA.

When we referred last week to the critical situation of the Italian army in East Africa we had no reason for supposing that a disastrous defeat of the Italian forces in Abyssinia was to be so speedily realised. Intelligence from Massowah, through Reuter's agency, informs us that General Baratieri having decided on the 29th ult. to attack the positions of the Shoan army, the advance took place, and the passes leading to Adowa were captured without fighting, but the whole of the Shoan force having at first attacked the left flank column ultimately extended along the whole Italian front, and after a desperate struggle the Italian troops were compelled to fall back. The fighting took place all day, with the result that General Baratieri was repulsed with the loss of over 3000 men with two general officers and a great part of his artillery. The Shoan force was evidently a very large and formidable one, and the victory won by King Menelek inflicts a most serious blow upon the Italian garrison in Abyssinia, the news of which has naturally produced a feeling of consternation in Rome and seriously embarrassed the Italian Government. This disaster seems to have mainly arisen from want of intelligence as to the position and strength of the Shoan army. Reinforcements amounting to 10,000 men have already been sent to Abyssinia. As the engagement was on a very extended scale and a very severe one the losses must have been correspondingly great, and it is to be feared that the number of medical officers and the hospital service will prove quite inadequate to the occasion, to say nothing of the commissariat difficulties. Italy has always shown herself a friendly Power to England, and a very cordial and sympathetic feeling exists between the two countries; consequently the regret of this country at the news is sincere.

ARMY MEDICAL STAFF AND INDIAN MEDICAL SERVICE.

With reference to the recently published lists of the successful candidates for commissions in the Army Medical Staff and Indian Medical Service we draw attention to the circumstance that while the competition for commissions in the Indian Medical Service is considerable and the quality of the candidates, as shown by the result of the examination, excellent, this is far from being the case when we turn to the consideration of the list of successful candidates for the Army Medical Staff. For the latter service eighteen candidates were required, and would no doubt have been admitted to Netley as probationers had a sufficiency of properly qualified men presented themselves. Only seventeen vacancies were duly advertised, but as one of the surgeons on probation failed to satisfy the examiners at the last examination held in the Army Medical School, Netley, there were really eighteen men required to keep up the strength of the department. The result of the recent examination held in London showed that only nine candidates have been judged fit for admission to undergo the probationery course in the Army Medical School, and of these the last man has only just managed to secure the minimum number of marks required by the regulations. The causes of the unpopularity of the Army Medical Staff as a career, Mr. Brodrick informed the House last week, are engaging the serious attention of the Secretary of State, and a statement upon the subject is promised on the occasion of the introduction of the Army Estimates.

YELLOW FEVER AT RIO.

It seems, according to a telegram from Rio de Janeiro of the 1st inst., that the outbreak of yellow fever on board the Italian ironclad at that station must, indeed, have been a very extensive and terribly severe one, for it is stated in the *Standard* that 225 cases occurred out of a strength of 280, and that 84 proved fatal. The only available quarantine station of Brazil is used as a yellow-fever hospital for the crew of the Italian vessel. The isolation hospital intended for Rio has not yet been completed. The disease has appeared in another vessel, and it is feared a severe epidemic of yellow fever is impending.

The annual dinner of the Militia Medical Staff Corps was held at the Holborn Restaurant on Feb. 29th, under the presidency of Surgeon-Major Collingridge (the Commanding Officer). Among those present were Surgeon-Major Bedford, A.M.S., Surgeon-Captain Harris, A.M.S., and Major Fowler.

Surgeon-Colonel W. Taylor, M.D., Principal Medical Officer in charge of the troops in the recent Expedition to Ashanti, arrived at Windsor Castle on Tuesday, and was received by Her Majesty on the following day.

Correspondence.

"Audi alteram partem."

SUPERANNUATION OF POOR-LAW OFFICERS.

To the Editors of THE LANCET.

SIRS,—As the Poor Law Officers Superannuation Bill is coming before the House of Commons on March 18th it will be imperatively necessary that all Poor-law medical officers should write to, or see personally, their respective members of Parliament, urging their attendance and support on that occasion. I have every reason to expect that the Bill will meet with support from both sides of the House, and if we lose this chance from apathy on our part I fear superannuation will be indefinitely postponed.

I am, Sirs, yours truly,
J. WICKHAM BARNES,
Honorary Secretary, Poor Law Medical Officers' Association.

Feb. 28th, 1896.

To the Editors of THE LANCET.

SIRS,—Will you allow me to urge every Poor-law medical officer to request the member of Parliament of whom he is a constituent to be in his place and support the Poor-law Officers' Superannuation Bill, which comes on for its second reading on Wednesday, March 18th. Especially should he be asked to support Clause 20, which says: "Officer includes every officer, whether his whole time is devoted to the duties of his office or not." Otherwise medical officers will find they are left out on the plea that their whole time is not devoted to the service. I trust *all* medical men will take an interest in this question and influence, as far as possible, *every* member of Parliament with whom they are in touch.

I am, Sirs, yours truly,
HORACE EYRE HAYNES,
Medical Officer, Third District, Evesham Union.

Evesham, March 4th, 1896.

"THE COMPARATIVE NUTRIENT VALUE OF MEAT PREPARATIONS."

To the Editors of THE LANCET.

SIRS,—I have not seen the article which appeared in *Food and Sanitation* of Dec. 14th, 1895, and which you refer to in THE LANCET of Feb. 22nd in the annotation under the above heading, though I did hear during a discussion which occurred a few weeks ago between a couple of medical friends and myself on the subject matter of this letter a reference made to something very like it as therein showing the nutrient superiority of bovril over Valentine's meat juice. But I remember reading in a copy of the same paper about twelve to fifteen months ago an article—whether it reproduced it or not I cannot say—of a somewhat similar nature, which at the time took me rather by surprise and left me for a while very much in doubt as to what really were the comparative merits, as nutrients, of bovril and Valentine's

meat juice. Up to then I always understood that the two preparations, taken as they stand, were, as you say, "not comparable," and not being in a position myself to prove or disprove the statement of *Food and Sanitation* I concluded, when after a little, as far as I am aware, it was not called in question by anyone, that the analyses giving the constituents of each were correct. In these, as far as I can recollect, the nutrient value of bovril was given as being one hundred and fifty-two (152) times greater than that of Valentine's meat juice. This, too, was published with such a degree of confidence as apparently to defy contradiction, which, not being forthcoming, naturally weaned me over to the opinion that I was previously under a misapprehension with regard to these two preparations. Now, your disputation of the figures quoted by *Food and Sanitation* and challenge of their accuracy will, I trust, fully elucidate the matter. I, and I am sure many others, gladly welcome your proposal and will watch eagerly for the result of the investigation. I have since I saw the article I speak of in *Food and Sanitation* prescribed bovril on several occasions where formerly I ordered Valentine's meat juice to my patients, and considering of what vital importance it is both to the profession and to the public to know the best available nutrient in the case of sickness or otherwise I trust the issue will be speedily determined between you and made known as widely and as fully as possible.

I am, Sirs, yours faithfully,

Llansilin, Feb. 25th, 1896. R. HILL SHAW, M.B. Dub.

PRELIMINARY TRAINING FOR NURSE PROBATIONERS.

To the Editors of THE LANCET.

SIRS,—The description of the residence for pupil probationers in connexion with the London Hospital and the course of education they have to go through[1] will be read with interest, and to the charitable public will be rather disquieting. Young persons who, at the age of eighteen years or so, are incapable of sweeping a floor or dusting a room, to say nothing of the numerous other unskilled household duties young women at this age are expected to be quite familiar with, are hardly, one would think, fit to enter upon the study of a calling in which the daily duties are so multifarious; but when it is proposed in six weeks' time to turn them out proficient as sick-room cooks, practised surgical dressers, and with a fair knowledge of physiology, anatomy, and hygiene, it seems to me the promoters of this high-class development are attempting the impossible. Tredegar House is doubtless under the government of the hospital, and the cost of its management paid out of its funds, which are subscribed for the benefit of the sick poor, there is no warrant whatever for the managers to waste the money of the charitable on a scheme wholly unnecessary. The fact is, nursing is a fashionable hobby and is well-nigh ridden to death, resulting in disaster to the training of medical students, whose interests have become subordinate to those of the nurse in most of our large hospitals and infirmaries, especially those attached to medical schools. One sees four or five nurses waiting upon an operating surgeon doing all the work which attaches to a dresser, while the students stand by picking up what practice (?) they can as lookers-on. When will the profession shake off its indifference to medical education? How much longer is the control of the funds of our medical charities to be left in the hands of a few governors and lay managers holding office for an almost indefinite period? How much longer are the interests of the medical students to be neglected by their teachers, who hold their position with, and make their large incomes out of, the public by virtue of their attachment to the hospital? Compare the relative position of the medical student and the nurse:—1. The probationer receives a salary at once; the medical student pays a handsome fee for hospital practice. 2. The nurse probationer is taught bandaging, dressing, and, indeed, most minor surgery; the medical student may pick up these as best he can outside the theoretical lecture hall. 3. One dresser is allowed to assist the house surgeon during an operation; four or five women wait upon the operator.

But what benefit do the public receive, who find the material and the money for educating and training nurses? It is reasonable they should have some advantage from the skilled workers they have created. How are they treated by hospital authorities? The fees for the services of trained nurses are simply prohibitive except to the wealthy, for the advent of a nurse into an ordinary household is a matter of grave consideration. Over and above a weekly charge of 1½ to 3 guineas each, all expenses of the house are increased, she must be waited on by the servants, if there be any, which means that additional help must be engaged, and the table of ordinary people is not thought quite equal to the necessities of a trained nurse. The medical man's fees, of course, though moderate by comparison with those of the nurse, are frequently lost sight of altogether, but I believe medical men are frequently to blame for suggesting the services of a nurse when there is no need for such. It is rarely one goes into a family where there are not some female relatives, a wife or a daughter, who look upon it as a sacred duty, and rightly so, to nurse their sick relative, and are quite as capable in the majority of cases of carrying out the instructions of the medical attendant as a professional nurse. There is another advantage in a patient being nursed by a relative: they know their peculiarities and their presence is less irritating than that of a stranger. I have myself known much mischief result to a sensitive patient from the very suggestion that a hireling should be brought in to look after them. Finally, I desire to say that in my opinion the services of hospital trained nurses so long as they are attached to a hospital should be hired out to the public at a cost simply sufficient to cover their salary and all incidental expenses, such as travelling, laundry work, &c.

I am, Sirs, yours truly,

Old Trafford. JAS. BRASSEY BRIERLEY.

[1] THE LANCET, Oct. 5th, 1895, p. 885.

"FUNCTIONAL APHONIA IN MAN; TREATMENT, ETC; WITH SPECIAL REFERENCE TO SO-CALLED VARICOSE VEINS AT THE BASE OF THE TONGUE."

To the Editors of THE LANCET.

SIRS,—The encyclical letter of endorsement of Dr. Herbert Tilley's views under the above heading in THE LANCET of Feb. 29th calls for no reply seeing that it adopts the unscientific attitude of absolute negation so properly deprecated by Dr. McBride. I, however, venture to advise the signatories to compare my article in the *Liverpool Medico-Chirurgical Journal* with the letter of Dr. Watson Williams in your issue of Feb. 22nd. That gentleman, having read the communication, wrote to me in the past week regretting that he had overlooked it and saying that he was "in entire accord with the opinion I have expressed as to the importance of looking beyond the local causes in these affections." Nor does Dr. Tilley's letter merit further notice, for his rejoinder is on an entirely false issue. He has not improved his ethical position by his reassertion of a charge of dishonesty—that of pretending to treat a condition that did not exist—against the physician who had formerly seen one of his patients. I am the more able to say this because from internal evidence I am convinced that this unnamed specialist was not myself. It, however, clearly refers to one of my colleagues at the Central London Throat, Nose, and Ear Hospital, for it is part of the sentence which states that the extravagant doctrine—that functional aphonia is "due to varicose veins at the base of the tongue, the appropriate treatment being cauterisation by means of the galvano-cautery"—emanates from that hospital. For the personal charge Dr. Tilley has no warrant but the hearsay evidence of a single case; while, although he now admits that he received no such suggestion from the surgeon at our hospital whose practice he followed, he cannot get away from the clear inference of his first imputation that such is the teaching at that institution.

I confidently challenge Dr. Tilley and the syndicate of his supporters to produce a tittle of printed evidence that such a pathology and treatment have been taught by myself or any of my colleagues, and I would even go so far as to add by anyone else.

I am, Sirs, yours faithfully,

Mansfield-street, W., March 2nd, 1896. LENNOX BROWNE.

P.S.—There is a regrettable and not quite English tendency in recent times for dissentients from any new view or treatment to impute mercenary motives for its adoption. But this assumption of the *rôle* of the "honest broker" is not

calculated to enhance the good reputation of the specialty for which Dr. Tilley and his friends claim to be solicitous. I have reason to know that this particular application of galvano-cautery at the base of the tongue—on whatever hypothesis pursued—is not confined to those who like myself endeavour to explain the grounds for its performance.

To the Editors of THE LANCET.

SIRS,—Dr. Herbert Tilley, in his instructive article on Functional Aphonia, &c., with reference to Varicose Veins at the Base of the Tongue, asks, Does this condition exist, and if so, with what frequency? Will you kindly allow me to state that while at Vienna last year I heard Professor Chiari make this remark: "I have never seen a case of varicose veins at the base of the tongue that required the galvano-cautery." This was a surprise to me, as it was contrary to what I had been taught in London.

I am, Sirs, yours faithfully,

Leopold-street, Derby, March 3rd, 1896. GEO. FOURQUEMIN.

THE MEDICAL DEFENCE UNION, LIMITED, AND THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.

To the Editors of THE LANCET.

SIRS,—In to-day's issue of THE LANCET, at p. 577, Mr. Victor Horsley, in referring to the proposed amalgamation of the Medical Defence Union with the London and Counties Medical Protection Society, is reported to have said at the ordinary general meeting of the former society that a committee of the London and Counties Medical Protection Society "was now sitting to decide the only point of difference remaining between the two societies—namely, as to the name of the amalgamated bodies." We are sure this is an error on the part of your reporter, for Mr. Horsley could not have made a statement conveying that meaning.

The only point remaining for settlement between these two societies, and which alone blocks the way to their amalgamation, is the refusal of the Medical Defence Union to register the new title of the amalgamated societies. The London and Counties Medical Protection Society holds the opinion that neither the name of the Medical Defence Union nor its own name should be left for anyone to trade upon after the amalgamation of the two societies has taken place, and the only way to make this impossible is to register as the full title of the amalgamated societies a name containing the present titles of both. A most suitable name has been suggested and is accepted by both societies, but it must be registered before it can effect its purpose. Mr. Horsley will doubtless have already drawn your attention to this error in your report of his speech, an error which if uncorrected might do harm to the progress of this movement for the union of these two societies.

We are, Sirs, yours truly,

G. A. HERON, W. BRUCE CLARKE, } Delegates of the London and Counties Medical Protection Society.

Registered Offices: 12, New-court, Lincoln's-inn, Feb. 29th, 1896.

"CHROMIDROSIS."

To the Editors of THE LANCET.

SIRS,—Cases of chromidrosis have been recorded in THE LANCET by Dr. Stott and Mr. Temple. A similar case came under my observation in 1887 while acting as house physician to Dr. Finlayson in the Western Infirmary, Glasgow. The patient, a woman aged twenty-three years, was sent in by Dr. A. Patterson on account of perspiration of a greenish-yellow colour which stained her collar, particularly at the back part. A collar which she had worn the day before was produced. It was deeply stained of a greenish-yellow colour, this being somewhat easily dissolved out by cold water. No organic tests were applied, but chemical tests gave negative results. In order to exclude any accidental staining the patient was supplied with a clean collar, a diaphoretic administered, and she was seated in front of the ward fire. Unfortunately, in my absence from the ward she became alarmed and escaped. I was unable to trace her afterwards, but the case seemed genuine, as she had been observed by Dr. Patterson and I believe by other men outside. There was no trace of this staining on any other part of the body, nor could it be accounted for by occupation, menstruation, food, or any accidental circumstance. Over the nape of the neck the skin was thickened, wrinkled, and studded with comedones. The condition had existed for several years.

I am, Sirs, yours truly,

A. T. NISBET, M.B. Glasg.

Newton Abbot, S. Devon, March 2nd, 1896.

OBSTETRIC APPOINTMENTS AT THE GREAT NORTHERN CENTRAL HOSPITAL, HOLLOWAY.

To the Editors of THE LANCET.

SIRS,—Will you kindly do me the favour to give space in THE LANCET to draw attention to a recent advertisement in your columns inviting applications for the (new or vacant I do not know which) post of obstetric physician for out-patients at the Great Northern Central Hospital? Is it fair or right for the authorities of our great suburban hospital in the north of London to make the qualifications for this particular appointment so very exclusive, so debarring, indeed, as to limit the selection of an officer from the ranks of the west-end consulting physicians? The secretary of the hospital informs me that there is "no extern midwifery department at this hospital, so that the duties of the physician (obstetric) are confined to the out-patient department." Evidently the duties are more gynæcologic than obstetric, and as such would, I think, be more efficiently performed by the obstetric surgeon than by the obstetric physician. General medical practitioners in the neighbourhood of the hospital with high medical and surgical qualifications ought not to be ineligible simply because they are not, and for many reasons do not wish to be, members of the Royal College of Physicians. I must respectfully ask why surgeons and general medical practitioners with high medical and surgical qualifications, graduates in medicine of a British university by examination and Fellows of a Royal College of Surgeons of the United Kingdom, are not allowed to compete for these appointments? The duties are generally more surgical than medical, and are in private practice as well performed by the obstetric surgeon as the obstetric physician. Why, then, can the obstetric surgeon not be trusted with the treatment of hospital patients?

I am, Sirs, yours truly,

J. DYSART MCCAW, M.D. St. And.

East Finchley, N., March 2nd, 1896.

THE COLLUM MEMORIAL.

To the Editors of THE LANCET.

SIRS,—The late Mr. Archie T. Collum, M.B. Lond., F.R.C.S.Eng., having for many years been connected with Charing-cross Hospital as a student, house surgeon, surgical registrar, and finally as assistant surgeon, we think it fitting that some kind of a memorial should be established in connexion with this hospital. For this purpose a meeting of past and present students has been called for Tuesday, March 11th, and will be held in the students' club-room at Charing-cross Hospital Medical School at 4 P.M. Dr. Abercrombie, will take the chair. We should be pleased to see all friends who are interested in the above object.

We remain, Sirs, yours faithfully,

March 2nd, 1896. LANGFORD LLOYD, C. THOMPSON BISHOP, } Hon. Secs., Students' Club.

"THE PREVENTION OF LARGE MAMMARY ABSCESSES BY EXPRESSION OF THE MILK."

To the Editors of THE LANCET.

SIRS,—I am glad that Mr. Spencer has called attention in THE LANCET of Feb. 29th to a most useful method of preventing the formation of mammary abscesses, namely, by the relief of tension in the early stages. In March, 1893, I read a paper before the Medical Society of King's College in which I described a very similar method of preventing the formation of such abscesses and of treating them even when they had formed. This was based upon the treatment of

over twenty cases which I had seen as out-patient surgeon at the Great Northern Central Hospital during three years. In cases where pus has not yet actually formed the procedure is as follows:—A glass bottle of about one pint capacity and with a mouth about three inches in width is thoroughly purified and the mouth smeared with vaseline. A strip of blotting-paper soaked with methylated spirit is ignited and thrown into the bottle. Just before the flame dies out the mouth of the bottle is applied firmly to the distended breast, so that the nipple is in the centre. The rarefication of the air within the bottle causes the breast and nipple to bulge well into the bottle; the little plugs which have caused the blocking of the mammary ducts are suddenly forced out, and the milk flows freely into the bottle, as Mr. Spencer describes it, "like water from the rose of a gardener's watering pot." In this way I have removed over half a pint of fluid and, as I believe, prevented the formation of an abscess. Assuming that a mammary abscess is often, if not always, caused by the entrance of septic organisms *viâ* the ducts, then this is about as perfect a method of getting rid of them as possible, for the milk issuing in so many streams and at such pressure must effectually wash them away. The bottle is then removed and a large dressing applied (the breast having been thoroughly washed with a 1 in 20 carbolic solution), and a bandage applied so as to support it. If pus has already formed I have modified the method as follows. A trocar and cannula of about one-tenth of an inch in diameter is boiled so as to purify it and then plunged into the breast, generally just to one side of the nipple; the trocar is withdrawn and the bottle firmly applied as before. The pus escapes very freely at once, and the ducts are all opened as before, and often pus issues freely from them also. As the pus flows gentle pressure may be exerted upon the sides of the breast, as Mr. Spencer describes. The cannula and bottle are then removed and a large dressing and bandage applied. In only four cases out of a number amounting by this time to over thirty have I had to repeat this procedure; but even if it had to be repeated four or five times it is better than making the large incisions and draining, as is usually done, and I think everybody will admit that an out-patient who is suckling a baby, or who has just weaned it, is in about as bad a condition constitutionally as she can be to bear an anæsthetic, free incisions, draining, and constant dressing. The advantages which I claimed for this method in my paper were:—(1) You remove all the pus and can, if you like, wash out the abscess cavity with some lotion by means of a syringe, the nozzle of which fits the cannula; (2) you do not injure the breast tissue; (3) the patient is able to get about and to be out in the air and is not confined to a room or ward, and dressed twice daily or oftener, with the constant change of drainage-tubes; (4) the amount of pain inflicted is trifling compared with that caused by a large incision and by the subsequent moving of drain-tubes and dressings; (5) no anæsthetic is necessary and the patient is consequently not upset, as is so commonly the case and as everybody knows who has opened a large mammary abscess in a lactating woman; and (6) it is about the best method of removing the cause of the abscess—namely, septic micro-organisms which are blocking up the milk ducts and may have penetrated even further.

By the method above described I have been for some years in the habit of treating abscesses, acute and chronic, in situations other than in the breast and with remarkably good results. In very many cases the trocar and cannula have been inserted through healthy skin in the neighbourhood of the abscess, and so the pus has been "tapped," as it were, and withdrawn. This opens up a large question—namely, whether it is right to evacuate pus through an incision in the inflamed skin over it or through healthy skin in the neighbourhood. This is a question which I hope to be allowed to discuss in THE LANCET shortly.

I am, Sirs, yours faithfully.

PEYTON T. B. BEALE.

Grosvenor-street, W., March 2nd, 1896.

PATHOLOGICAL AND THERAPEUTIC VALUE OF THE ROENTGEN RAYS.

To the Editors of THE LANCET.

SIRS,—I had the advantage on Feb. 15th last at the Camera Club of witnessing the excellent demonstrations by Mr. Campbell Swinton of the effects of the so-called "x" rays of Roentgen. As I have for the last fifteen years been engaged, whenever opportunity offered, in investigating the effects of sunlight on the human body, and especially the penetrating effects of reflected rays from snow and other surfaces, I was naturally led to inquire whether there could be any relation between what I had observed and the observations of Professor Roentgen. Professor Roentgen finds that certain rays, generated or excited by electrical action, penetrate most of the human tissues and other substances, and are stopped by substances of a different nature. I have, on the other hand, demonstrated that reflected *luminous* or photo-chemical rays also penetrate the human skin into the deeper tissues beneath and produce within them great and important changes. It will, I think, be interesting to compare a summary of facts and conclusions of various phenomena observed by me from time to time with those published by you on the "x" rays of Roentgen.[1] 1. That heat *quâ* heat is not the cause of sunburn. 2. That there is strong evidence for believing that sunburn is caused by the violet rays or ultra violet rays of light reflected from snow, which reflected light is not necessarily of the same quality as that which is incident. 3. Captain Abney finds that the violet or ultra violet rays are very strong at high altitudes, and believes that altitude has much to do with sunburn. 4. That altitude alone does not explain sunburn, for one may be unburnt on rocks, say, at 10,000 feet, and yet become immediately affected on descending to a glacier 3000 or 4000 feet lower down. 5. That sunburn and snow-blindness arise from similar causes, and that sunstroke and sun fever may be associated with the effects of penetrating light rays. 6. That rays from the electric light produce much the same results as sun rays reflected from snow. 7. That the bronzing of the skin and the browning of the wooden *châlets* are probably produced by rays reflected from snow. 8. That various pigments, but chiefly those containing red and yellow, stop or alter reflected luminous rays, and prevent the physiological and pathological changes usually due to them. 9. That freckles, which are but the milder effects of luminous rays, stop the penetration of those rays through the skin. 10. That the sometimes very serious inflammatory changes in sunburn and in what Mr. Hutchinson designates "summer eruptions" are due to the penetration of reflected luminous or photo-chemical rays through the skin to the deeper tissues beneath. 11. Photography often demonstrates the existence of freckles and, report says, various eruptions deep in the skin which are perfectly invisible to the naked eye, showing that the luminous or photo-chemical rays are by them stopped or altered and not reflected back as no change is produced on the negative, an effect which suggests that these photogenic rays have penetrating powers as yet unknown. 12. That the wood of Swiss *châlets* is burnt perfectly black (carbonised) on its surface by rays reflected from snow, which rays in time penetrate deeply into the substance of the wood and change it to a deep brown colour. 13. That the first effect of snow rays on a new *châlet* is shown by its action on the resin of the wood, which sweats out and leads more easily to the charring of the woody fibre itself and the subsequent changes in the deeper parts. 14. Captain Maude, R.E., has shown from his own personal experiences and from experiments on many friends in India that direct solar rays in India produced sun fever of a very serious kind, which was entirely prevented by the wearing of an orange lining to all his clothes and inside his hat. These experiments demonstrate the penetrating power of light rays through clothes unprotected by colour and their important influence on health. In relation to this I have shown that a woman wearing a linen blouse with red and white stripes was strongly marked with red and white stripes on her shoulders, but the red line on her skin corresponded to the white lines of the linen—i.e., the red had completely stopped all rays from affecting the skin beneath them. 15. I have often shown that rays reflected from certain surfaces, such as water, gold and silver lace, white walls, white veils, certain clouds and mists, act quite differently from direct light, and that some physical changes hitherto unexplained must take place in light during or after reflection. 16. In relation with the foregoing are those marvellous changes in the vegetable kingdom connected with the formation of chlorophyll and the deposition of starch.

From these and many other observations I cannot help

[1] Sunburn on the Alps: Alpine Journal, November, 1888. Sunburn on the Alps: Edward Stanford, Cockspur-street, S.W. 1890. On the Influence of Solar Rays on the Skin: British Journal of Dermatology, No. 58, vol. v.

feeling that Roentgen's "x" rays will be shown to be modifications only of ordinary light, and that their further elucidation must go hand-in-hand with a further inquiry into the profound changes caused by reflection to which I have above referred. It need not necessarily be assumed that what we call darkness implies an absence of all the forms of light.

I am, Sirs, yours obediently,

Upper Brook-street, W., Feb. 17th, 1896. ROBERT L. BOWLES.

PUBLIC HEALTH (SCOTLAND) BILL.

To the Editors of THE LANCET.

SIRS,—On a previous occasion I drew attention to the miserable salaries paid to burgh medical officers. As no alteration is to be made in the bodies administering the new Act unless some clause is inserted in the new Act those miserable salaries will continue. Roughly speaking, the burgh contains two millions and a half of the population and rural Scotland contains one million and a half. The cost of medical officers looking after rural Scotland is £11,579. The cost of the medical officers looking after the burgh, including Glasgow, Edinburgh, and Dundee, is £4581, not half what is paid for rural work. I have some experience of both, and the rural work is child's play compared to the burgh. The population of Perthshire is 122,185. Roughly speaking, rural Perthshire contains 61,000 and Perthshire burgh contains 61,000 inhabitants. The cost of the county medical officers is £784 and the cost of the burgh medical officers is £100; or £884 in all. According to Section 8 of the existing Act the board in Edinburgh are entitled to call for reports and returns, but no provision is made for remunerating the medical officers for these reports. Recently, however, the board have had the distribution of some money in aid of salaries. In Crieff the sanitary inspector has a salary of £10 and mine is £7 7*s.* The local authority left mine untouched and raised the sanitary inspector's to £46 16*s.* Even the sanitary inspector did not benefit by the grant as the local authority cut down his wages as burgh surveyor from £60 4*s.* to £23 8*s.*, so that his total earnings were £70 4*s.*, and the grant went into the ratepayers' pockets. The grant is, therefore, liable to abuse. I think the grant should be confined to the medical officers, and should be withheld unless the salary amounted to £10 10*s.* per 1000 of population. This would give for Burghal Perthshire £670 in salaries instead of £100.

I am, Sirs, yours obediently,

Crieff, N.B., March 3rd, 1896. JAMES GAIRDNER.

"THE HADDEN FUND."

To the Editors of THE LANCET.

SIRS,—Kindly insert these additional names and oblige,

Yours faithfully,

JAMES CRAIG,

York-street, Dublin, March 2nd, 1896. Hon. Sec. and Treas.

	£	s.	d.		£	s.	d.
Dr. Creery, Coleraine.....	0	10	6	Surgeon-Major Blood, Birkenhead.....	1	1	0
Mr. Purcell, Dublin.....	1	1	0	Mr. Wayland, Dublin.....	0	10	0
Dr. Day, Cork-street Fever Hospital	1	1	0	Mr. Pollard, Dunkineely	1	1	0
Dr. Henry O'Neill, Belfast	0	5	0	Mr. Neale, Mountmellick	1	1	0

IS MALIGNANT ENDOCARDITIS INVARIABLY FATAL?

To the Editors of THE LANCET.

SIRS,—In Dr. Hale White's interesting lecture on Malignant Endocarditis reference is made to the occurrence of temporary recovery in this disease, and the question suggested whether the recovery is ever permanent. A few months ago I made a necropsy at the Bristol Royal Infirmary on a case of malignant endocarditis that seemed to have an interest in connexion with this point. Although an endocarditis of malignant character had proved fatal there was evidence that the area of the heart attacked had possessed sufficient vitality to wage a partially successful war against the disease. Vegetations, characteristic of malignant endocarditis, were present on one half of the anterior segment of the aortic valve, and the other half had almost entirely disappeared. A noteworthy feature was, however, that the narrow band that remained had a perfectly healed edge. About a third of the right posterior aortic segment had also disappeared, and this, too, showed a smooth healed edge. Above the first-mentioned segment the coats of the aorta were destroyed down to the sheath over an area about one-quarter of an inch square, but here, also, neither the edge nor the base of the depression showed signs of the presence of active disease. In short, we may say that, although endocarditis of malignant nature still remained, there was a larger area over which it had been present but had disappeared. A somewhat similar case has occurred quite recently. The heart of a woman aged sixty showed malignant endocarditis of the tricuspid valve. In addition to the presence of the characteristic vegetations there was evidence of destruction and healing of one of the cusps. Radiating bands emanated from a fibrous centre causing puckering of the otherwise thin segment and the production of a scar similar to that which follows the destruction of skin by a burn. It may be thought that this puckering was due to a previous attack of rheumatic endocarditis. I think, however, that most of those observers who are familiar with post-mortem work will agree that rheumatism does not produce puckering of this nature. Rheumatism thickens valves along the lines of the fibres running from the attachments of the chordæ tendineæ to the base of the cusps, and consequently does not give rise to irregular deformity. It may also be mentioned that the mitral valve was not thickened, and thickening of the valve would almost certainly have been present had the disease of the tricuspid been rheumatic in origin. Both these cases seemed to me to give unequivocal evidence of somewhat extensive healing in malignant endocarditis. And if such healing can take place there seems no reason why it should not occasionally gain an ascendancy over the destructive process and cause arrest of the disease. Permanent injury to the valves would without doubt follow, but life for a time would be saved.

I am, Sirs, yours faithfully,

Clifton, Bristol, March 3rd, 1896. THEODORE FISHER.

MEDICAL TOUTING.

To the Editors of THE LANCET.

SIRS,—Surely some redress can be obtained, or some power can be appealed to, for the repression of the disgraceful and dishonourable tactics adopted by some practitioners for acquiring patients. Some time since I was informed by a patient (and friend) that a seedy individual had called upon him to know if he would join Dr. ——'s medical club. For the present I refrain from giving the name and address of the medical man in question. This is the second occasion upon which this disreputable method of house-to-house touting has been brought to my notice, and as this is, in my opinion, tantamount to advertising it should fall within the range of duties appertaining to the General Medical Council. If the Council would only erase a few names from the Register for such offences it would certainly have a wholesome effect, for how is it possible to uphold the dignity of our profession before the public if some of its members are allowed to adopt this scandalous method of procedure—of sending his agent among his neighbours' patients to induce them to join his club. I should be much obliged by an expression of your opinion upon this matter as it affects all the respectable practitioners in the vicinity.

I am, Sirs, yours faithfully,

London, S.E., Feb. 28th, 1896. WM. LANSDALE, M.D. Durh.

*** Touting by medical men for patients who are already under the care of brother practitioners is, we think, correctly described by our correspondent as a "scandalous method of procedure."—ED. L.

"THE CHARGE AGAINST AN EX-MAYOR'S DAUGHTERS."

To the Editors of THE LANCET.

SIRS,—The publicity given by the Press to the unfounded charge against my sisters has led to my receiving a large number of sympathetic messages from my fellow-practitioners, many of them strangers to me. I shall feel much obliged if you will allow me through your columns to sincerely thank all these gentlemen.

I am, Sirs, yours obediently,

New Cross, March 4th, 1896. F. GRAHAM HARGRAVES.

A POINT OF ETHICS.

To the Editors of THE LANCET.

SIRS,—We shall be thankful for an opinion on the following points of medico-ethical interest in an early issue of your widely-read journal.

A temporary maternity is started by public subscriptions, as an experiment, to overcome certain religious and social prejudices at the lying-in period in a certain community, and also with a view to render charitable help at that period to the very poor of that community. Four medical men—A, B, C, and D—are appointed to it honorary physicians by a formal resolution at a public meeting on a footing of equality, and are also appointed members of the managing committee. A has been largely instrumental in the collection of subscriptions and in otherwise developing the idea of the temporary hospital, and in recognition of his work he is also appointed its honorary secretary, and entrusted with its internal or household management. After a few years of experimental work, owing to the united and conscientious efforts of the honorary physicians and the managing committee, the hospital becomes an accomplished fact, and at the end of eight years a regular hospital is built by public subscriptions from the community. Hitherto A's official designation has been always "honorary secretary and physician," and he has signed all official or non-official correspondence as such only. He then tries to change his original designation to that of "secretary and *first* physician." His colleagues protest against it, but the managing committee support his action and appoint him first physician by a formal resolution. This resolution is passed at the end of eight years of their joint work, without even allowing an opportunity to his other colleagues to formally submit their reasons against such a change, and actually in the unavoidable absence of one of them; and as a reason the committee urge that they wish to have somebody at the head of the hospital whom they may consider directly responsible to them for its proper conduct, though A has been, as a matter of fact, responsible for the internal management all these years as the honorary secretary.

We would like to know whether, under the circumstances—1. The committee are right in appointing A to be the first physician, when they are quite aware, and fully admit, that all four were appointed honorary physicians on a footing of equality and by a formal resolution at a public meeting. Are they justified in doing so now after exacting hard work of an honorary character from them for a period of eight years? 2. Is the attempt on the part of A at a change in his designation, indirectly and directly, honourable or justifiable? 3. Is A's special work as secretary and his internal or household management of the hospital as such any justification or claim for the assumption of the title of the "first physician" as is urged by some members of the committee? His purely medical work, as one of the honorary physicians, is equally divided with his other colleagues and is not a whit more responsible or more onerous than theirs. 4. What must be thought of A's conduct from the point of view of medical ethics in thus benefiting himself at the expense of his colleagues, notwithstanding that he has never had any cause of complaint from them and has always received their cordial coöperation and support? 5. Have not B, C, and D reason to believe themselves lowered in their professional status by this assumption of the title of first physician by A if they still continued to work under the new state of things, and would it be so construed, or not, by the profession and the public? 6. Have not B, C, and D sufficient and just cause to resent the action of A and that of the managing committee, and are they not justified in entering a protest for the sake of their own professional reputation, and in fighting for the principle involved by such arbitrary working of a public institution?

Apologising for trespassing at such length on your valuable space, We remain, Sirs, yours faithfully,

B——, India. D. B. M., J. J. C.

*** There can be no doubt, we think, as to the answers to the various questions put to us in the above letter, which may all be answered in one. The managing committee have done wrong in giving the designation of *first* physician to A, and it is to be regretted that A should have in any way sanctioned their doing so. His interest in the institution has been rightly recognised throughout. His colleagues should not act hastily in resigning, though they may justly resent a designation which is inconsistent with that status of equality which should exist among men whose standing and whose services are the same.—ED. L.

THE BATTLE OF THE CLUBS.—XXIII.[1]

(FROM OUR SPECIAL COMMISSIONER.)

(Continued from p. 516.)

LOUGHBOROUGH:—LOCAL EFFORTS DEFEATED BY CONSULTANTS FROM NEIGHBOURING TOWNS.

LIKE its larger neighbour Leicester, the town of Lough borough also suffers from the prevalence of medical aid societies. Formerly there were only the ordinary friendly societies which were managed on old-fashioned lines. About twelve years ago the friendly societies sought to include women and children for the benefits of medical aid. This, as fully set forth in my descriptions of the state of affairs at Portsmouth, was much opposed to the interests of the medical profession, the principle, as already several times explained, being that the medical officer is willing at a sacrifice—that is, for only club pay—to attend the bread-winner in times of sickness. When, however, the bread-winner is in work and in full receipt of his pay, then the medical officer expects to receive the ordinary fees for attending the wife or the children of the members of the club. With this prospect before him the medical officer can and should give the member of the club full and careful attention, treating him as if he was an ordinary private patient. By such treatment young medical practitioners could hope to make a reputation, and thus club practice was a useful stepping-stone for young and rising members of the profession. But at Loughborough, as was recently attempted at Portsmouth, the friendly societies sought to destroy this state of affairs by forming branches or lodges for women and children. The leading medical officer, however, refused to accept these lodges of women and children. Then the Foresters' Society approached a practitioner and asked him to take the women and children. They also held out hopes that in the course of time he would have the men. This, it must be borne in mind, occurred some twelve years ago, when the question of club practice had not yet been raised. Nevertheless, even in these early days the practitioner in question was on his guard. He replied that he was willing to help the poor and the necessitous. If they could prove that the women were really poor he would attend to them at club rates, but not otherwise. This the Foresters declined. They could not, or rather they would not, establish a wage limit. Greatly embarrassed by this state of affairs the friendly societies looked about for some other solution of their difficulty. They found that close by, at Leicester, the friendly societies of that town had amalgamated to open a dispensary where they employed a medical man at a fixed salary, who was debarred from undertaking private practice and compelled to devote himself exclusively to the club patients. Thereupon the friendly societies of Loughborough likewise amalgamated, established a dispensary, and advertised for a medical man. The medical men practising at Loughborough held a meeting, and brought with them to that meeting a list of all their club patients. By thus comparing notes they found that many wealthy persons were members of friendly societies or medical aid clubs. Many tradesmen and all the publicans belonged to such organisations. A resolution was then brought forward to the effect that

[1] The previous articles on this subject were published in THE LANCET on the following dates: (1) Aug. 24th, 1895, Brussels; (2) Aug. 31st, 1895, Brussels; (3) Sept. 21st, 1895, Portsmouth; (4) Sept. 28th, 1895, Portsmouth; (5) Oct. 5th, 1895, Eastbourne; (6) Oct. 12th, 1895, Lincoln; (7) Oct. 26th, 1895, Lincoln; (8) Nov. 2nd, 1895, Grimsby; (9) Nov. 9th, 1895, Bexhill-on-Sea; (10) Nov. 16th, 1895, Hull; (11) Nov. 23rd, 1895, Hull; (12) Dec. 7th, 1895, York; (13) Dec. 14th, 1895, Northampton; (14) Dec. 21st, 1895, Fermanagh Medico-Ethical Association; (15) Dec. 28th, 1895, Northampton; (16) Jan. 4th, 1896, Birmingham; (17) Jan. 18th, 1896, Birmingham; (18) Jan. 25th, 1896, Club Practices in Rural and Mining Districts; (19) Feb. 1st, 1896, The Formation of a Provident Medical Association at Folkestone; (20) Feb. 8th, 1896, The Manchester Medical Guild and Medical Aid Associations; (21) Feb. 15th, 1896, The Leicester and Leicestershire Provident Dispensary; (22) Feb. 22nd, 1896, The Organisation of the Profession at Leicester.

should any medical man accept the post as medical officer to the friendly society's dispensary the members of the profession at Loughborough would refuse to meet him. There was only one medical man who would not sign this resolution, and he in defiance of the opinion of the local practitioners accepted the post offered by the dispensary and served for seven years. During all that time he had a free hand among a population of close upon seven thousand persons. No one competed with him. Nor were the profession at Loughborough able to prevent his obtaining a consultant. Whenever he needed such assistance he was always able to bring a medical man from Leicester, Derby, or Nottingham. Also, on one occasion an emergency arose. There was a bad case of diphtheria. It was a matter of life or death, and then a local consultant thought it was only right to break through the general rule rather than endanger the patient's life. When ultimately the gentleman gave up the post of medical officer to the dispensary the Loughborough medical men rescinded the resolution which outside competition had rendered so inefficacious.

This is another proof that local organisation by itself does not suffice. It is not reasonable to expect the profession to act with greater harmony than it seems was displayed at Loughborough, yet the result was a complete and signal defeat. On the other hand, opinion was not as ripe as it is to-day; and communication between the towns mentioned is so easy that the profession in neighbouring centres must be brought into line so as to defend one another. The successful establishment of the friendly societies' dispensary did so much harm to private practice that, while all suffered, one of the local practitioners was so hard hit that he left the town in despair. One medical man calculates that the establishment of this dispensary reduced his income during the first year of its existence to the extent of about £100. The medical men who worked for the dispensary might have made good incomes out of the same population instead of earning from 2½*d.* to 3*d.* per consultation.

How much abuse must prevail is proved by the failures that have occurred where abuse has not been practised. Thus the Liverpool Victoria Legal Friendly Society, having lost the medical officer who represented them at Loughborough, asked a local practitioner to take up the position. He replied that he would accept *bonâ-fide* working men at 1*s.* per quarter, but not their families. The result was that he did not have more than four or five patients per annum. In the same manner he consented to work for the Pearl Insurance Company. The members were to pay 1*d.* per week for medical aid, but this payment was to be separated from, and have no connexion whatsoever with, the payments they might make for life insurances. Above all, there was to be no canvassing. As these conditions were strictly enforced the consequence was that the Pearl Company did no business worth mentioning in the town. These facts are surely very significant, and show how the organisation of medical aid, especially by insurance companies, is built up with elements that are in nowise entitled to such medical aid.

Some five years ago an effort was made at Loughborough to form a medical provident association which was to be managed exclusively by medical men. All the medical men in private practice were asked to join the organisation. This was a line of action which more recent experience in other towns shows to be full of promise. The time has now come when such a course is likely to meet with better support than in the past. At Leicester the same idea is entertained by several medical men, but it is of little use for the profession to start a dispensary of their own unless each individual medical man ceases to work for other dispensaries or medical aid societies. This is a subject on which, however, I need now only refer your readers to the description of what has been done in this respect at Eastbourne.[2]

If, as is already proposed, an effort is made to bring about united action between the medical men of the county or of the principal neighbouring towns, this will be very heartily supported by the profession at Loughborough. Such action should, it is felt, be directed to the establishment of a wage limit, though not necessarily a uniform wage limit. It suffices, it is urged, to adopt the principle of a wage limit. Local conditions differ so considerably that each locality might be left some discretion as to what that limit should be. Therefore, though the wage limit might vary somewhat from town to town in rural and in urban districts, still it should be publicly established. The medical profession of the entire district should be convoked, and should carefully study the question, and then decide what that wage limit should be in that particular district. Any medical man who after this did not accept the general opinion of the profession and failed to apply the wage limit to his club practice should be treated as unprofessional. If the public were properly informed and made to understand what this meant the position of a recalcitrant medical man would soon become untenable. But if leading physicians and eminent consultants come from neighbouring towns to support such a man, such action will fail. The public will not believe that the conduct of the man who has been declared unprofessional is really looked down upon by the profession when they see that he obtains the aid of some of the best-known consultants, even if these latter do not belong to the district but come from a neighbouring town. It must, therefore, be thoroughly established that the profession in any town or district must respect the wage limit established in any other town and district. Indeed, it should be unprofessional for any medical man to go into any district and do in that district whatever the majority of the local practitioners shall have declared to be unprofessional. It is from such action as this that Loughborough has suffered. As far back as twelve years ago the practitioners of this town might have fought out, and fought successfully, the battle of the clubs but for the hostile or selfish action of consultants from other towns.

[2] THE LANCET, Oct. 5th, 1895.

THE BATTLE OF THE CLUBS AT LINCOLN.

From the annual report for 1895 of the Lincoln Oddfellows Medical Institute, Manchester Unity, we quote the following:

> THE LANCET then sent down a "so-called" special commissioner, whose report they published in their columns on Oct. 12th and 26th, 1895, and subsequently reprinted in the form of a pamphlet, entitled "The Battle of the Clubs: sweating Medical Men at Lincoln"; in which are to be found so large a number of unblushing misstatements, grossly distorted facts, together with false assumptions and equally false conclusions, the wonder is any person could be found to *write*, much less to *publish* them. We are, however, convinced that such methods as these will only recoil on the heads of those who use them, and instead of injuring will the more surely tend to strengthen and consolidate our Institution. Wishing you all a happy and prosperous New Year,
>
> HENRY HOYES, Chairman.
> GEORGE S. JOHNSON, Deputy-Chairman.
> WILLIAM COULSON, Secretary.

Abuse—to use a trite saying—is not argument. It is all very well for Brothers Henry Hoyes, George S. Johnson, and William Coulson to talk about unblushing misstatements, false assumptions, and equally false conclusions, but will they kindly point out to us what they are? We wrote to Brother Coulson for a report of his Institution for 1894, with which he has kindly supplied us. We have compared our Commissioner's report with the figures in the balance-sheet, and find the two accounts tally, except that in places our Commissioner has omitted odd shillings and pence—e.g., our Commissioner says "£32 were paid to secretary, treasurer, and committeemen." The report's figures are: Secretary, £7; sub-secretaries, £24 8*s.* 4*d.*; treasurer, £1; auditors £1; total, £33 8*s.* 4*d.*, so that our Commissioner has, if anything, under-estimated the sum paid to non-medical officials. Again, our Commissioner says: "The dispensers were paid £116." The two medical officers "had given in the course of the year 31,107 consultations and visits, and they have received for this enormous amount of work £384." Turning to the report we find; Visits, 6934; consultations, 24,173; total, 31,107. By medical officers' and dispensers' salaries, £500 17*s.* If we deduct £116 we get £384. We omit the 17*s.*, not knowing whether it was paid to the dispensers or the medical men. Finally, our Commissioner adds up the purely medical expenses and says: "This equals a total expenditure of £758." The report says:

Medical officers and dispensers ...	...	£500	17 0
Drugs		161	5 11
Secretary, &c.		33	8 4
Cabs		65	0 0
		£760	11 3

The discrepancy is explained by our Commissioner, as we said, omitting the odd shillings and pence and reckoning the secretary's salary at £32 only. Our Commissioner says the subscriptions paid for medical aid amounted to £989; the report gives £989 9*s.* 2*d.*; deduct £758 medical expenses from £989 9*s.* 2*d.* and we get £231 9*s.* 2*d.*

This profit is the amount sweated out of medical men or the amount they made by their work which was not handed over to them. Does Brother Coulson dispute these figures? If not, will he kindly tell us what are our "misstatements," false assumptions, &c.

With regard to the United Friendly Societies Dispensary, we are charged by them with causing to be published "a combination of false statements, distorted figures, misrepresentations, and wilful falsehoods which it is scarcely possible to have imagined any person equal to."

We wrote to Brother W. Bavin, the secretary of the same, for a report of his society for 1894, upon which our Commissioner founded his "wilful falsehoods," &c., but hitherto we have not received it. However, if Brother Bavin and his co-official Brothers, P. P. Dickinson, C. Keyworth, and J. Otter will point out to us when and how we have been guilty of wilful falsehood we shall be happy to print their remarks. We may add that in the Manchester Unity the fee per visit or consultation works out as follows:

$$\begin{array}{r} £384 = \\ 240 \\ \hline 15360 \\ 768 \\ \hline 31107\,)\,92160\,(\,2\,\tfrac{30948}{31107}\text{ pence.} \\ 62214 \\ \hline 29946 \end{array}$$

In the United Friendly Society the fee comes to something under 5*d.* per visit. Truly these sums are living wages with a vengeance.

THE LEICESTER AND DISTRICT PEOPLE'S DISPENSARY.

To the Editors of THE LANCET.

SIRS,—I regret that I did not see the article, No. 22, on the "Battle of the Clubs" in THE LANCET of Feb. 22nd until too late to reply before. In that article you allude to the "People's Dispensary." As I am one of the board, and was with the Rev. A. A. Isaacs, one of the founders of the institution, perhaps you will allow me to correct one or two statements concerning it. In the first place, you say it has not proved a success. I beg to inform you that it has been eminently successful and now numbers 6609 *paying* members, and last year 1837 new members entered; and I may add that we always have a balance on the right side, which was so good at the end of 1894 that we were able to distribute a bonus of £2 all round to both medical staff and druggists. I enclose balance-sheets of last year and 1894, and you will see that at the end of 1895 we had a surplus of assets over liabilities of £174 2*s.* 3*d.*, and we have decided to increase the pay of the medical staff and druggists. You will perceive in the balance-sheet the "death-fund," but that we have decided to do away with. The "People's Dispensary" is now in a very flourishing condition, and I feel sure that if other dispensaries were worked on the same lines, with so little expended on management, they might be able to pay a good fee both to medical men and druggists, which, to my mind, is the fairest way of dealing with this much-vexed question.—I am, Sirs, yours faithfully,

C. F. BRYAN, M.R.C.S. Eng. &c.

Spa House, Leicester, March 3rd, 1896.

*** If 1837 be subtracted from 6609, it will be seen that in the recent past the number of members had, as our Commissioner stated, gone down considerably below 6000. We see by the balance-sheet of the year 1895, which has been forwarded to us by Mr. Bryan, and which was not signed by the accountant until a week after our Commissioner's article was written, that the financial affairs of the dispensary are in a satisfactory state.—ED. L.

The following letter has been sent to every Portsmouth practitioner by the Portsmouth Medical Union:—

"DEAR SIR,—We are desired by the committee of the Portsmouth Medical Union to inform you that it has come to the notice of the Medical Defence Union of London that the practice of employing paid *canvassers* for private medical clubs is carried on in Portsmouth, and that the London Union have intimated that if they can obtain satisfactory evidence that this is done they will bring any ca e before the General Medical Council. The committee of the Portsmouth Medical Union would therefore urge on any practitioner in Portsmouth who may hitherto have adopted this practice to cease from doing so, and not even to support any medical aid society which allows canvassing for its medical officers.— Yours faithfully,

"T. FREDERICK PEARSE.
"J. G. BLACKMAN."

THE ASHANTI EXPEDITION.

(FROM OUR SPECIAL WAR CORRESPONDENT.)

Cape Coast Castle, Jan. 24th, 1896.

SINCE coming down from the front I have taken it very quietly at this port. Surgeon-Major Wilson, in command at the base hospital, has very kindly asked me to go up the hill and take up my abode with him, promising to give me, as I am convinced he would, every comfort and attention at his disposal. I have, however, decided to stay at the hotel near the sea, feeling that a few whiffs of warm sea air will do me good and the better prepare me for a trip home as soon as I feel I am able to undertake the journey. Possibly I may get away early next week, as I do not think anything will be gained by remaining to see all the troops come down, as I am already provided with a store of information.

But let us return to a careful consideration of the various rest camps. Yacumba, the first, and Acroful, the second *en route*, have already been described by me, and now we come to the third one, which is called Dunkwa. This is a native village of some size and importance on our line of communication and distant from Cape Coast Castle about twenty miles. From the excellent character of the soil—a rich chocolate-coloured brown alluvial deposit surrounding the township—and its nearness to the port it may very possibly in the near future become a place of considerable importance should the land be taken up by purchase or hire from the owning chief, and crops of cocoa, coffee, spices, and sugar be grown in the soil so suitable for their production. At present the township is simply a collection of very fairly well-built native mud houses, irregularly dotted on each side of a good wide road, and numbers in population some 500 souls, of which total quite a fourth part are already converted to Christianity and are under the care of the Rev. G. Jones, a cultured, intelligent, coloured Methodist missionary, who has laboured with commendable assiduity for several years amongst this West African community. He informed me that his people have always enjoyed good health, but that south of Dunkwa, at a place called Abusi, some months ago small-pox had broken out amongst the natives, attacking some thirty or more, six of whom had died. Amongst the Dunkwa people constipation was the principal complaint which he, in his capacity of missionary and native doctor, had to treat, and for which ailment he employed the pounded roots of a plant resembling tamarindus indicus, but called by him *swatsi-watsi*. The root, after being well pounded up with lime juice and water until a putty-like mass results, is given in teaspoonful doses. Its purgative effects are produced in about three hours after the dose has been administered. He has also seen a few isolated cases of dysentery, and this complaint will always yield, so he says, to a few doses of a decoction made by boiling down the root and leaves of the lamboya tree, the true botanical character of which has yet to be determined. Natives are also occasionally laid up for a few days with guinea worm, for the extraction of which native doctors have for a long time enjoyed an excellent and exclusive reputation. However, nowadays our own surgeons, especially those colonial officers attached to the Haussas—a body of coloured men particularly liable to be affected—can and do extract them quite as well as, if not better than, their dusky non-professional competitors. During my stay at Kwissa a guinea worm some 2 ft. 6 in. long was removed alive and whole by one of our surgeons from the scrotum of one of the Haussas, the whole operation lasting only seventeen minutes. The surgeon who performed the operation told me that the true habitat of the guinea worm is water, and the Haussas so frequently going through muddy pools with their naked feet are particularly liable to get them in the soles of their feet. Thence they work their way upwards along the leg between the skin

and fascia until they reach the scrotum, from which part they are frequenly extracted as above described. In the operation alluded to a little water was frequently dropped by the surgeon over the part where the worm was. Its head soon appeared and protruded itself beyond the cuticle. This was immediately grasped and held firmly. In the meantime gentle traction was made by one hand whilst the scrotum was gently kneaded with the other. By degrees portions of the body were gradually secured, and in little over a quarter of an hour the worm itself was extracted entire.

From the Rev. Mr. Jones I also obtained some very reliable and valuable information regarding the snakes which infest the locality. First and foremost in respect of danger from their bites stands the "Keemri," a short, thick, black-hooded reptile, whose poison is said to kill its victim within a few minutes of biting. For this poison no native antidote is known. Is this a species of cobra? Probably so. 2. The "Puffadder," or native "Nanka," a stumpy, thick, brown-coloured snake some two or three feet long, with characteristic dorsal markings. For its bite no antidote is known. 3. The "Pang," a greyish-yellow and black diagonal-marked snake from two to eight feet long, infesting bamboo swamps and marshy land. This reptile will kill its victim in about two hours. For its bite the native medicine men profess to have an antidote, but the nature of the remedy is kept a close secret by the "Ju-ju." 4. The "Red Snake," or native "Cribbin." 5. The "Coomoobaroo," or "Kill Hunters'" snake. These five kinds are by his report all of a venomous character.

Circumcision is common amongst the natives, being usually performed at an early age, infants not more than six or eight months old being subjected to the operation. It is performed by the Mallams, a religious sect, who also profess to teach the Mahomedan religion, the bulk of the natives, of course, being pagans. The food of the Fantis consists of bush snails, casava, yams, plantains, and bananas. One of their principal dishes is called "foo-foo," made from pounded yams, in the preparation of which delicacy considerable muscular energy and great patience are exhibited by both sexes who by turn undertake the pounding of it. After hours of hard work a yellow-coloured, paste-like mass is produced, to which is added some snail soup. All being ready, the natives squat down on their haunches, and taking portions of the food between the first and second fingers and their thumbs insert it in their mouths and devour probably two or three pounds of this farinaceous compound at a single sitting. Hence one cannot pass near any native village or along the line of march where Fanti carriers have been without noticing the enormous quantities of clay-coloured excreta passed by them, being generally more than four times those of a white man. In briefly alluding to the religion of these people I may say "Ju-ju" fetich is principally believed in. It is scarcely correct to say they are atheists—they one and all believe in a Supreme Being. They readily admit the existence of one God; but when asked why then do they not worship Him they say: "God is too good to do us any harm—in fact, He cannot do wrong; but the evil spirit is always doing us harm and he must be propitiated at all risks and hazards." Hence the fetich rites with all their fanatical "Ju-ju" accompaniments.

Although no cases were to be found in Dunkwa I myself noticed amongst our carriers several cases of syphilitic and leprous ulceration. In some instances these sores were dressed with leaves; in others they were dusted over with a reddish kind of powder, which was probably dried and finely powdered camwood.

Their habiliments, except in some cases where there was no attempt to disguise nature, were as varied and parti-coloured as the flowers of the forest. Some wore one kind of costume, some another. The diversity of apparel was simply marvellous. At one spot could be seen an individual with an old brown felt "wide-awake" on his head, a loin cloth completing the articles of his attire. Another, and this time a female forsooth, affected a well-worn chimney-pot hat with a checked shirt of English manufacture to complete the toilet of her glossy, sable form. However limited in character and form their dress may be, it proves sufficient and ample for the climate; there never being a breath of wind to ruffle its folds, decency in consequence is never too grossly outraged.

Their huts are nearly all built of mud in oblong quadrangles containing from two to four compartments, each compartment being raised about two feet and a half from the ground. In the pateo, or centre vacant space, they build up their fires of wood and cook their food They exhibit not the least regard for sanitation. The bush surrounding their huts is the depository of every species of filth and abomination imaginable, whilst all slops and refuse after meals, being simply thrown down just outside the entrance to their domiciles, soon become by accumulation a fermenting and putrefactive mass of corruption. The erection of latrines for the use of the natives has certainly been encouraged by the authorities, but their form is open to objection. They are simply a collection of bamboos, corduroyed at an angle of 45°, with a back rest at the top. No pit is dug, hence all excrement is deposited in heaps on the surface of the ground. The result may be more easily imagined than described, especially as most of these lumps of excreta contain round worms of a prodigious size, which, by putrefying under the rays of a tropical sun, add considerably to the general insanitary surroundings of the place.

So early as half-past five on Dec. 19th we were again on the move towards the Prah, and by 8 A.M. reached a group of huts called Dumasi, where a chief came out of his hut to welcome me with a large bunch of ripe bananas. The trees on our flanks were now much larger and higher and more umbrageous. The magnificent "bombax" may be noticed towering aloft amongst his forest chums. The "elias," whence palm wine is obtained, and the "elias guineensis" (palm oil tree) may be both seen to advantage with their graceful foliage unruffled in the still morning air. The "cocos nucifera" (cocoa-nut), plantains, and yams are also growing extensively by the sides of the road, but there appears throughout a want of systematic cultivation, while many of the young plants seem to have been cut down and ruthlessly destroyed by the Haussas, who have preceded us on the march.

After a slight meal we once more pushed on ahead, and passing through some extensive and high-grown bamboo groves finally reached Mansu at about 4.30 P.M. on the same day. This is a somewhat important village selected as the fourth rest camp, and occupies an elevated position on the left bank of the River Man, which flows, looking up stream, from west to east. The buildings were erected by Mr. Rogers, and consist, as usual, of a number of long bamboo huts which have already been occupied by the Haussas prior to our arrival here. No hospital had yet been put up, nor had its site up to the time of our departure been decided upon. The weather continued fine, the barometer standing at 29.50. The height of the camp may be roughly set down as somewhat over 400 ft. above sea level. The water had to be collected from the river, coursing as it does over a sandy gneiss bed at the bottom of a charming umbrageous glen, the chemical examination of which gave fairly good results, Nessler's solution only affording a slight ammoniacal deposit, probably the result of natives bathing and washing their clothes therein. The temperature at noon in the shade was 87° F., the wet bulb indicating a mean of 81°. About 5 P.M. on the day of our arrival a telegram from the base informed us that the West India Regiment had disembarked at Cape Coast Castle—of which regiment one officer was invalided and twenty privates were reported as unfit for duty—and they might be expected at Mansu about the Sunday following. That afternoon I again observed several Fantis, in spite of the guard put on to prevent them, disporting themselves in the river at a spot where our drinking water came from. The soil is granitic with mica. Large numbers of natives and Haussas were employed under the Royal Engineers erecting additional huts for the West Indian troops just in the rear of the native house I was at that time occupying. At 7 P.M. the temperature had fallen to 78° F., the wet bulb registering 76°. At about 10 P.M., just as we were preparing to retire, one of the sappers employed ahead in erecting the telegraph wire to Prahsu had been sent back ill. On arrival at Mansu he was cold and collapsed, complaining of pains in his back and loins. His tongue was coated and tremulous and the pulse irregular (94), with a temperature of 100·4° F. A dose of phenacetin was administered, and he was put to bed and well wrapped up in blankets. Diaphoresis was soon established, and the next morning before I left he was reported as much better.

Dec. 21st commenced with a gloriously fine morning and quite cool. The harmattan having favoured us with its presence, the barometer on this day stood at 29·57". After our early breakfast we started for Suta, which we reached about 11 A.M. The refreshing gentle north-east breeze of the early morn had by that time deserted us, there

being once more not a breath of air to stir the most flimsy leaves of any of the trees around us. On our arrival we found Dr. Croker, one of the assistant colonial surgeons who had been sent for late the previous night to see one of the Haussas, down with a severe attack of diarrhœa. He had left Mansu by hammock about 11 P.M. and had reached Suta about 2 A.M. in the morning. After resting my boys for two hours in this very warm place we set forward again and arrived at Fuso about 4.30 P.M. The barometer registered 29·35° and the thermometer 86° F. A fine evening was succeeded by a lovely moonlit night. There was no rest camp at Fuso, so I requisitioned a native domicile and was soon comfortably settled therein. A sluggish, offensive looking stream of water crossed the road from east to west at the entrance of this village. On testing it proved indifferent enough, so what I required I had to boil and reboil before I made my customary tea with it.

Sunday, Dec. 22nd, was dull and overcast at Fuso. The barometer registered 29·39° and the maximum temperature of the thermometer at 2 P.M. was 86° F. The latter part of the day was slightly cooler. The mean of the dry bulb was 81¼° and the mean of the wet bulb 79¾°. About noon we heard a fearful noise: tom-toms beating and shouting by natives announced the arrival of the Ashanti envoys on their way up through our lines to Kumasi. They were in charge of a guard of Haussas, and remained at Fuso village during that day and the following night. At 5 P.M. I had a formal visit from the chief of Fuso. He came, it appears, to thank me for having earlier in the day settled a quarrel between one of his native women and some Fanti carriers going back to the coast. These returning porters, it appears, have been in the habit of waylaying females and children bringing fruit and vegetables into market and stealing the goods from the baskets on their heads. Happening to be strolling down the road in the morning I saw one of these illicit seizures, and immediately made the thieving carrier come back and restore the goods to their lawful owner and also compelled him to hand over to her the sum of 3*d*., an amount he would otherwise have had to pay for their lawful transfer. The old chief, I need hardly add, thanked me most cordially for the interest I had taken in the matter and brought with him a "dash" of fruit, which of course I politely refused to accept. A little consideration and kindness shown to Africans, I am convinced, is never thrown away; for on my return, when passing through this same village, I was at once recognised and saluted as an old friend.

On Dec. 23rd, the previous night having been quite cool, the barometer standing at 29·40°, at 6 A.M. we started from Fuso just behind the Ashanti envoys; but soon overtaking and passing by their crowd reached Vinya at 8.30, where we breakfasted beneath the shade of the village trees. Starting after a rest of some thirty minutes we came on to Baracou—another native village six miles only from Prahsu—and at this spot we rested until 3 P.M. During our stay I fell in with a Mr. Harding, an officer in the Colonial Works Department, who was living in a native hut at this place. He asked me to chop with him, an invitation I was only too glad to accept after such a long day's march. From this gentleman I obtained some very useful information respecting the climate and inhabitants. He, it appears, had resided at Salt Ponds and Baracou for some three years. He had come out from England with three other young fellows. Of his companions two had died from fever and one had been invalided home on account of it. He himself had suffered from the same complaint several times—the first being the most severe of all the attacks.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

School Board Education.

THE elementary education of the present day as illustrated by the teaching in some Board Schools is considerably in advance of that anticipated by our forefathers when the Act was framed. A parent writing to a local paper expresses his strong dissent from the subjects taught at one of these schools. An advanced physiology class numbering some forty girls had twenty rabbits given between them to dissect. The animals were killed by chloroform, were cut open, and the girls had to make certain experiments with them. Many of them got their fingers covered with blood and found the demonstration exceedingly disagreeable and distasteful. It seems that the inspector had complained that no practical demonstrations were given in the class of physiology, hence this holocaust of rabbits. I am reminded of the story of an indignant mother who wrote to the head mistress of a similar school: "Please don't teach our Mary Ann no more about her inside, it makes her feel queer; besides, it's rude." Comment is unnecessary when plain speaking of this kind is understood to represent the sentiments of many parents.

Sick Societies and Imposition.

The fifty-fifth annual meeting of the Cannon-street Male Adult Provident Institution was held on Feb. 27th. The report showed that the expenditure had exceeded the income by between £4000 and £5000. The committee were anxious to stop the excessive amount of sickness and indicated the direction of some reforms in this matter. During the year many cases of gross imposition were brought before them. It was suggested that the medical men did not thoroughly examine all the patients before giving them sick notes, and that careful investigation was more necessary. Too many medical men was also spoken of as a cause of harm as being superfluous in the interests of the society. Instances were given where flagrant fraud was practised by members, some of whom had been expelled. Adversity strengthens the desire to make provident habits more valuable and noteworthy, and if this lesson is brought home to the members by their own experience and suffering it will not be without benefit.

Birmingham General Dispensary.

The 102nd annual meeting of the governors of this institution was held on Feb. 26th. It was shown that the total income for the past year was £10,770, including a balance of £398 from the previous year. The expenditure amounted to £10,355. The total number of patients during the year by tickets was 32,774, showing an increase of 677. The average cost of the patients had been 3*s*. $9\frac{5}{16}$*d*. Various other items of interest were mentioned. The dispensary is a popular institution of the town, next in age to the General Hospital, and is exceedingly well-managed and administered. It possesses four branch institutions with a fifth in course of building. The chairman, in extolling the merits of the charity, stated that it was the only one which could boast that its income had increased and its expenditure diminished during the past year. The usual votes of thanks were passed.

Birmingham Workhouse.

On Feb. 28th, at a meeting of the workhouse committee, a communication from the Local Government Board was read relative to a complaint made by an inmate named Leonard as to the death of another inmate named Fisher. The revision sub-committee reported that they had investigated the statements and had examined the officers referred to—namely, one of the medical officers and the labour master. The committee stated that it was with much regret they came to the conclusion that an error of judgment had been committed by these officers. Criticism has been free in the public press on the transaction. Duties of the kind engaged in by these officers are oftentimes difficult and complicated, yet it must be borne in mind that there are broad lines of definition within which the action of safety may be followed. In public institutions the value of open administration is admitted to be a safeguard to the protection of the inmates, while prudence and attention in the discharge of duty is looked for in those holding responsible positions of trust.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Unlawful Sale of Poison.

AT the Liverpool County-court on the 25th ult. an action was heard in which the Pharmaceutical Society of Great Britain sought to recover a penalty of £5 from an unqualified assistant employed at a local "pharmacy" for having sold poison contrary to Section 15 of the Pharmacy Act, 1868, he not being registered as a chemist under the Act. The defendant sold a quantity of laudanum equivalent to nine grains of opium, and this was one of the poisons scheduled in the Act, and the decided cases showed that an

unqualified assistant selling such poisons in the absence of his employer, who might be qualified, was liable. The defendant admitted the sale and for the offence committed was fined £5 and costs.

Medical Students' Debating Society.

Of the many societies under the wing of University College, Liverpool, none exhibits more useful and instructive features than that of the College Medical Students. Established some years prior to the absorption of the Royal Infirmary School of Medicine by University College, Liverpool as its medical faculty it worked in a quiet and unostentatious manner, having for its object the reading and discussion of papers and communications on all subjects approved of by its committee, the exhibition of specimens, microscopical and pathological, also the narration of cases and comments on them. The meetings are held once a fortnight during the winter session under the chairmanship of one of its honorary members, who, for the most part, are the professors and teachers attached to University College. Prizes are given by the society and also by some of the honorary staff of the Royal Infirmary for the best reports of medical and surgical cases, for the exhibition of specimens, and other kindred objects. The debating prizes are awarded by ballot. At the meeting held on Feb. 19th an interesting paper on Physiognomy was read by Mr. Ould. The debate was well sustained, Mr. Ewart opening the discussion. Other subjects treated at previous meetings included papers on Examinations, Socialism, the Armenian Question, Pauper Immigration, Hypnotism, and Golf and other Sports. The next and last meeting of the session will take place on March 5th, when Professor Harvey Gibson will give a prize for the best paper on one of the following subjects: (1) Hypnotism; (2) the Congulation of Blood; (3) Antitoxin; and (4) the Position of Biology in Medical Education.

Liverpool Medical Institution.

This society, which is in a flourishing condition with 280 members and associates, besides eight honorary members, has decided on purchasing a number of microscopes for use at its microscopical and pathological section, which on former occasions have been borrowed from members of the society, notably from Professor Boyce of University College. During the past year a heavy expenditure has been incurred in putting the roof in thorough repair. The theatre has also been painted and redecorated, and its ventilation has been improved, thereby affording additional comfort. Other improvements are also in contemplation. The number of books in the library now exceeds 10,000 volumes. Mr. Chauncy Puzey, on his retiring from the presidency, presented the society with a handsome aneroid barometer.

Liverpool Royal Infirmary.

The selection committee of this hospital met on the 27th ult. for the purpose of electing an additional honorary assistant physician. The choice of the committee fell on Dr. John Hill Abram. Dr. Abram has filled important posts in connexion with the Royal Infirmary. He has been its pathologist for five years and has also held the appointments of house physician and medical tutor and registrar. He is assistant to the Professor of Pathology in University College, Liverpool, and assistant physician to the Stanley Hospital. The qualifications of the other candidates were also of a high order.

St. Paul's Eye and Ear Hospital.

This hospital, which held its annual meeting on the 18th ult., under the presidency of the Lord Mayor, had the misfortune of being partially destroyed by fire on the 25th ult., a week later. Sad to relate, Miss Helsby, one of the nurses, seeing the flames bursting around her and thinking there was no other means of exit, opened one of the windows and jumped into the street, sustaining a fracture of one limb and also injuries to the spine. A patient's foot was also badly burnt. At the time of the outbreak of the fire there were twenty-two patients in the hospital, besides nurses and other employées, who all fortunately escaped with the above exceptions. The treasurer has issued an appeal to the public for funds to enable the committee to reconstruct the hospital on more modern principles.

Bootle Borough Hospital.

The annual meeting of the subscribers was held on the 26th ult., under the presidency of the Mayor of Bootle. The treasurer in his report regretted that the subscriptions and donations were insufficient for the current demands. Mr. W. P. Hartley had given £500 for the endowment of a bed, which was a matter for gratitude under the present adverse circumstances.

Additional Infectious Hospitals.

The hospitals' committee of the Liverpool City Council having decided to increase the number of infectious hospitals, owing to the extension of the city boundaries, have recommended the appointment of Dr. R. S. Archer as visiting physician to that at Walton and of Dr. Richardson to West Derby. The former has had a wide experience in infectious diseases, having formerly been resident at the Netherfield-road infectious hospital. Dr. Richardson has held the post of medical officer of health for the West Derby district for some years and also is physician to the Stanley Hospital. The salaries are respectively £50 and £80 per annum.

Coroner's Inquests.

In the head constable's report just issued it appears that the number of inquests held during the year 1895 was 1032, of which 262 related to children under one year (chiefly cases of suffocation).

March 3rd.

WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Sad Death of Mr. Richard Carter Revell, M.R.C.S. Eng., L.S.A., Mayor of Saltash, Cornwall.

ON March 2nd an inquest was held at Saltash upon the body of Mr. R. C. Revell, M.R.C.S., L.S.A., the mayor of the borough, who was found dead in his bed on Sunday, March 1st. The man-servant, in giving evidence, stated that he slept with the deceased on Saturday evening, and being unable to wake him in the morning sent off for Mr. Revell's partner, Dr. R. T. Meadows. This gentleman stated that Mr. Revell suffered from epilepsy and was in the habit of taking bromide of potash. He had also taken opium for years. Other evidence showed that the deceased had been in the consulting-room in the early morning for the purpose of getting a sleeping draught. On a previous occasion he had been in a state of collapse from taking drugs. The jury returned a verdict of "Death by an overdose of morphia through misadventure." The announcement of the death has cast a gloom over Saltash, where the deceased was held in great esteem. Mr. Revell was educated at Middlesex Hospital and took the qualification of M.R.C.S. Eng., in 1878 and L.S.A. in 1877. He was re-elected Mayor of Saltash last November, having filled the same office the previous year, and was also county councillor for the Saltash district. Deceased was major in the local volunteers and surgeon to several friendly societies. He will be especially missed by the poor of the neighbourhood, amongst whom he was most popular.

Increase of Lunacy in Gloucestershire.

The chairman of the Barton Regis (Bristol) Board of Guardians stated at the last meeting of the board on Feb. 28th that on Jan. 1st, 1896, the Union had 456 pauper inmates of asylums in Bristol and Gloucestershire, being an increase of 50 per cent. during the past ten years, the cost of these being £12,000, as against £8000 ten years ago. In addition to these there were 175 under detention in the workhouse and 54 in charge of their relatives receiving outdoor relief.

Death of Dr. Richard Budd, J.P., F.R.C.P. Lond., of Barnstaple.

Dr. R. Budd died after a short illness at Barnstaple on Feb. 26th. Dr. Budd graduated M.D. of Edinburgh in 1831, and took the M.R.C.P. of London in 1859, being admitted to the F.R.C.P. in 1863. He was a magistrate and consulting physician to the North Devonshire Infirmary. Dr. Budd of Barnstaple was the last surviver of nine brothers, seven of whom graduated in medicine, and two of whom attained the highest reputation, Dr. William Budd of Clifton and Dr. George Budd, late Professor of Medicine at King's College, London.

A Female Vaccination Officer at Cheltenham.

The daughter, aged twenty-eight years, of one of the relieving officers of the Cheltenham Union on Feb. 27th received the appointment of vaccination officer, on an amendment against the recommendation of the medical officer to

appoint a gentleman. The office has been vacant for some months, and has only now been filled under pressure from the Local Government Board.

The University of Wales.

A meeting of the Court of the University of Wales took place on Feb. 28th, under the presidency of Dr. Isambard Owen, the Senior Deputy Chancellor. Aberystwith was finally selected as the *locale* for the installation of H.R.H. the Prince of Wales as Chancellor of the University. The Prince has not yet selected the date of the ceremony, but it is understood that it will be in May. Much satisfaction was expressed at the meeting when it was stated that the Prince of Wales had given his support to the petition formulated by the Senior Deputy Chancellor asking that a sum of £4500 might be granted to the University from Her Majesty's Treasury. Dr. Isambard Owen announced that he anticipated a favourable reply.

Unqualified Practitioners in South Wales.

An inquest was held on Feb. 19th by the coroner for West Carmarthen on a lad aged eight years, of Llanigwad, who had been prescribed for by Philip Reed, a farmer, who is also the proprietor of four patent medicines. Evidence showed that Reed had been visited by the grandfather of the child, who had obtained some pills and medicine from him. It appeared that only half of a pill had been taken. Mr. Harries stated that the child died from pyæmia consequent upon disease of the knee-joint, and he did not think that the half of the pill could have done any harm or any good. Mr. E. R. Williams gave similar evidence. The coroner, in summing up, strongly deprecated the practice of medicine by unqualified men, and referred to two other inquests he had held upon the bodies of persons who had been prescribed for by such men. In this particular case, he added, the cause of death had been explained to the satisfaction of all, but that fact did not in any way justify the very risky practice of taking the prescriptions of unqualified men. The jury found a verdict in accordance with the medical evidence. Unqualified practitioners seem to be popular in this part of Wales, as the room where the inquiry was held was crowded with people, a great number of whom freely expressed their entire confidence in the farmer and his medicines.

Appointments at the Bristol General Hospital.

A meeting of the election committee of the Bristol General Hospital was held on Feb. 26th under the presidency of Mr. J. S. Fry. Mr. W. J. Penny, F.R.C.S., who for ten years has filled the office of surgeon, having resigned owing to ill-health, was unanimously elected honorary consulting surgeon. The chairman expressed his deep regret that it had been necessary for Mr. Penny to give up the appointment of surgeon to the hospital after his valuable services to the institution for so many years. Mr. R. G. P. Lansdown, M.D. Durh., M.R.C.S. Eng., who has held the post of assistant surgeon since April, 1893, was elected surgeon, and Mr. J. Lacy Firth, M.D., M.S. Lond., F.R.C.S. Eng., assistant surgeon.

Fresh Appointments at the Bristol Hospital for Women and Children.

The committee of the Bristol Hospital for Women and Children having decided to appoint medical officers in charge of the out-patient department, at a recent meeting the following gentlemen were elected to fill these new offices:—As out-patient physicians: Mr. T. Fisher, M.D. Lond., and Mr. E. C. Williams, B.A., M.B., B.C. Cantab.; and as out-patient surgeons: Mr. Charles Morton, F.R.C.S. Eng., and Mr. George Kendall, M.R.C.S.

Appointments at University College, Bristol.

The council of University College, Bristol, at their meeting on Feb. 26th made the following appointments: Professor of Pathology and Morbid Anatomy, Mr. J. Michell Clarke, M.D. Cantab., M.R.C.P. Lond.; Lecturer on Practical Midwifery, Mr. Walter C. Swayne, M.D. Lond.; and Lecturer on Practical Physiology and Histology, Mr. F. H. Edgeworth, M.B. Cantab., B.Sc. Lond.

The Water-supply of Yeovil.

In consequence of the present reservoir for the supply of water in Yeovil having been found inadequate it has been decided to purchase land for the construction of a second reservoir, which will afford storage accommodation for about a million gallons. The springs which will supply this are situated in the chalk hills at Evershot, Dorset, about ten miles from the town. The town council has decided to borrow money for the purpose.

March 4th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of Dr. Robert Lawson, Edinburgh.

THE Board of Lunacy in Scotland has lost a valuable servant by the death of Dr. Robert Lawson, Deputy Commissioner. Dr. Lawson was a graduate of Edinburgh, having taken his M.B. in 1871 and his M.D. in 1888 He acted as assistant to the Professor of Practice of Physic after graduation; he then became assistant medical officer of the West Riding Asylum, and afterwards medical superintendent of Wonford House, Devonshire. In 1878 he was appointed a Deputy Commissioner in Lunacy for Scotland, a post which he continued to hold up to his death. Much of his work consisted in visiting lunatics in private houses in the most remote parts of the mainland and islands, and in making official reports on them to the General Board of Lunacy. The *Scotsman* in its notice of him says he was of a most kindly and generous nature, humorous, and possessing extensive literary interests and sympathies. As he had been in indifferent health for months his death was not altogether unexpected. He was married but had no family.

The Lord Rectorship of Edinburgh University.

Lord Balfour of Burleigh has accepted the invitation of the Conservative Association of the Edinburgh University to become their candidate for the Lord Rectorship. Lord Balfour is Scottish Secretary.

Weather and Mortality in Edinburgh.

At the Edinburgh Royal Society, on Monday last, Mr. R. C. Mossman read an interesting paper on the Seasonal Death-rate from Certain Diseases in Edinburgh during the Period 1878–94, with remarks on the Relation between Weather and Mortality. The data for the paper were taken from the weekly returns of the Registrar-General for Scotland along with the observations taken at the Edinburgh stations of the Scottish Meteorological Society. The primary object of the paper was to show the manner in which the mortality from diseases varied during the year. The maximum death-rate occurred from about the middle of November to the end of January, and the minimum from the beginning of July to the end of September. The death-rate fell rapidly during the four weeks ending with the middle of February, after which there was no marked improvement until the end of May. Scarlet fever, croup, laryngitis, diphtheria and typhoid fever reached their maximum in November and prevailed with more or less virulence from September to February, the lowest death-rate from these causes being in July. Measles gave an irregular curve—the end of December, the middle of February, and the end of March all showing a high death-rate. Measles was at a minimum in August. Whooping-cough reached its maximum in the first week in May, and its lowest in the first week in November. The death-rate from diarrhœa rose with great rapidity after June, being highest at the beginning of September. Deaths from diseases of the respiratory organs attained their maximum at the beginning of December after a period of humid, raw, and changeable weather. An intimate relationship was established between the mortality from bronchitis, pneumonia, and pleurisy and the variability of temperature. When equable weather prevailed, even though accompanied by severe cold, the death-rate from respiratory complaints was comparatively low, but rapid alternations of heat and cold exercised a prejudicial influence proportional to the variability of temperature. Infantile mortality had its primary maximum from November to January, the deaths then being principally due to bronchial and zymotic affections. Diarrhœa caused a marked rise in infantile mortality during August. Persons of sixty years and upwards were particularly affected by respiratory complaints, the maximum fatality being from November to January. A comparison of seasonal death-rate from five zymotic diseases showed that the maximum fatality occurred earlier in London than in Edinburgh by from two to nine weeks. The minimum death-rate from whooping-cough, scarlet fever, and typhoid fever took place ten weeks earlier

in London, but measles and diarrhœa were both a month later in falling to their lowest fatality.

Medical Officer to the Glasgow Police.

It has been decided to advertise this vacancy and to offer an annual salary of £350 with £50 additional for travelling expenses. The salary previously paid was £450, a horse and brougham being supplied. Dr. MacGill, who has recently retired, is to receive a retiring allowance of £300 per annum in recognition of his long service.

Scottish Universities' Commission.

The sum for the expenses of this Commission, included in the Civil Service Estimates for 1896–97, is £510 and is only for three months, which seems to indicate that the work of the commission is drawing to a close. On the expiry of the Commission the power to consider and issue new ordinances for the institution of new chairs, &c., will pass to the University Courts, but until the commission is dissolved this power is enjoyed by that body alone. The unfortunate dispute between St. Andrews and Dundee may cause some delay, but were this happily settled—and unfortunately the prospects of settlement are not very bright—the various universities would be able to address themselves more freely to the completion of the details of such schemes as the commissioners have left to their discretion. It is understood that negotiations are already proceeding between the different universities with regard to the amount and nature of the practical work which shall be expected from the student in the various special subjects, and also in reference to the nature of the "clinical examination" to be demanded in future from candidates for the higher medical degrees—viz., M.D. and Ch.M. This last point is of importance to those who took the degrees of M.B. and C.M. under the old regulations, and who have been prevented from proceeding to the higher degree in consequence of having failed to take Greek as one of the subjects in the preliminary examination. These gentlemen will no longer be compelled to pass in Greek, as they now have the option of graduating under the new regulations which, however, demand in addition to an original thesis an examination in clinical medicine or clinical surgery according as the degree of M.D. or Ch.M. is desired. The examination will include such "special departments" as the senators may determine, and the regulations governing this aspect of the examination have not yet been framed. It is to be hoped there will be no unnecessary delay in issuing them.

Faculty of Physicians and Surgeons, Glasgow.

The following gentlemen have passed the necessary examinations, and their names having been submitted to a ballot, have been elected Fellows of the Faculty:—E. H. Lawrence Oliphant, M.D.; James Hamilton, M.B.

The Mather Collection of Pictures.

The first portion of the collection of pictures formed by the late Dr. Mather of Glasgow was sold by auction on the 25th ult. The total amount realised was £7500. The highest price obtained was for a seascape, "Oban Bay," by Sam Bough, which was knocked down for 400 guineas. A portrait of Dr. Cleghorn by Sir Henry Raeburn was sold for 165 guineas.

Melrose Asylum.

The District Asylum at Melrose has for some time past been inadequate to meet the requirements of the county, and it has been decided to erect an additional wing at a cost of £10,000.

Glasgow Obstetrical Society.

Sir John Williams, as the honorary president of the society, gave an address to the Fellows at a meeting on the 27th ult., his subject being a Historical Sketch of Gynæcology during the last Fifty Years. A large number of practitioners from the city and neighbourhood were present, and the vote of thanks to Sir John Williams in recognition of his address was moved by Professor Gairdner. In the evening the Fellows of the Obstetrical Society entertained the honorary president at dinner, and the toast of his health, which was proposed by the President, Dr. G. A. Turner, was cordially accepted.

Bequests to Glasgow Infirmaries.

By the will of the late Mr. Peter Porter of Glasgow a sum of £4000 is bequeathed to the Western Infirmary, £2000 to the Royal Infirmary, and £1000 to the Victoria Infirmary.

Paisley Convalescent Home.

The annual general meeting of the subscribers to the Home at West Kilbride was held at Paisley on the 26th inst. The report stated that 967 patients were admitted to the Home in 1895, and of these 880 left in such a condition of health that they were able to resume their usual employment. The directors, with a view to the extension of the buildings, have purchased a piece of ground adjoining the institution. The financial statement showed a balance of £307 2*s.* 2*d.* in favour of the Home.

March 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Irish Medical Men and the Army Examinations.

ATTENTION was called in the pages of THE LANCET some weeks ago to the falling off in the number of candidates from Ireland for the examinations of the Navy and Army Boards and to the complete disappearance of the special medical classes in which a number of young qualified men were prepared for these examinations each year in Dublin. In reply to a question in the House of Commons last week Mr. Brodrick stated that "the causes of this diminution, especially in the number of Irish candidates, are engaging the serious attention of the Secretary of State," and furthermore that "he hoped to be in a position to make a statement upon the subject in introducing the Army Estimates."

Election of a Direct Representative on the General Medical Council: the Feeling in Belfast.

The result of the election for direct representative on the General Medical Council has terminated as follows: Mr. Thomson, 866; Dr. Cuming, 757; and Dr. Jacob, 456. It will be thus seen that there was a large poll, and that, owing to the three-cornered fight, Mr. Thomson, who is elected, had 173 less votes than one-half of the total number recorded. As a result all the Irish members of the General Medical Council are Dublin men, and the provinces are without representation or influence on that body, a condition of matters contrasting very remarkably with what holds in Scotland and England. There can be no doubt that in the provinces the result of the election is disappointing, and especially so in Munster and Ulster, where the profession strongly supported Dr. Cuming as the selected provincial candidate. However, his defeat was due to a mode of conducting an election which, it is hoped, for the honour of the medical profession, will never occur again—that is, canvassing and pledging voters before the position was vacant; nay, more, before the late distinguished direct representative was even dead. Public attention was drawn to this circumstance by Dr. L. Kidd in a letter to one of the medical journals (Dec. 21st, 1895), in which he said he approached the subject with great reluctance "as the present representative for Ireland is a near and beloved relative of my own and is very ill, so ill that two metropolitan consultants have already put themselves forward as candidates for the position still held by Dr. Kidd in the General Medical Council." There is a strong feeling among thoughtful men who look ahead that, considering the present relationship between the medical profession in the provinces and in Dublin, Mr. Thomson would have acted more judiciously had he retired in favour of Dr. Cuming, a man of such acknowledged position and ability, and who is his senior. The profession in Belfast do not forget that when Mr. Thomson came forward as a candidate for the senatorship in the Royal University they supported him, and they think that, considering the monopoly of representation Dublin enjoys in the General Medical Council, he might have waited his time and retired in favour of one who is his senior. Now that Mr. Thomson is elected it is expected that he will, as soon as possible, get the General Medical Council to improve the position of the Poor-law medical officers.

Newry Fever Hospital.

At the annual meeting in connexion with this hospital, held on Feb. 28th, it was reported that for 1895 1291 patients were treated at the hospital, and of these 210 were intern cases and the remainder out-patients. Financially, there is a balance of £103 1*s.* 4*d.* towards next year's expenses. The working men of Newry have subscribed £40.

Larne Water-supply.

An inquiry was held at Larne on Feb. 28th with reference to the petition of the Larne Town Commissioners for powers to take lands for the construction of a storage reservoir, and praying that they might be allowed to abandon the rights and powers conferred upon them by the Larne Waterworks Provisional Order, 1894, whereby they were empowered to take certain lands and springs in Cairncastle. The present scheme is for a storage reservoir at a sufficient height to command the whole of the area within the township. The proposed reservoir will contain between nine and ten million gallons, so that it will not be at all necessary to deprive any person of water, as it is intended to use simply the overplus from the present supply. Mr. Cotton, chief engineer to the Local Government Board, who conducted the inquiry, will forward the evidence to the Local Government Board.

Cottage Hospital, Cushendall.

The new building for the Cushendall Cottage Hospital is now finished, the first patients being admitted in the month of February. The situation near the sea is airy and sunny. Formerly there was a hospital in a house in the village.

Downpatrick Asylum.

At a meeting of the governors held on Feb. 28th Mr. Nolan (superintendent) and Mr. Cowan, C.E. (the architect), brought before those present their views on the heating and ventilation of the asylum, with the view of adopting the most suitable and economical plan. The "Plenum" system of heating was the one recommended to be adopted, but it was arranged, before coming to a final decision, to get the architect, Mr. Cowan, C.E., to furnish an estimate of the "Plenum" and steam systems of heating and to supply an estimate of the cost of the maintenance of each system afterwards.

Health of Belfast.

From the report of the medical superintendent officer of health it seems that the epidemic of scarlet fever still continues with more or less virulence in every part of the city. The cases, however, are mild and there is not much mortality. There is a marked decrease in the number of cases of typhoid fever, and the deaths are very much less than they have been for many months past.

The Purdysburn Asylum.

At a meeting of the city corporation held on March 2nd the report was passed that additional accommodation, comprising administrative and two chronic blocks, should now be provided at Purdysburn for 300 chronic patients as part of a complete asylum. The representatives of the city council believe that such buildings can be erected at a cost of from £50,000 to £60,000. This will give ample accommodation for years to come, and will, in the event of being decided hereafter to erect a complete asylum at Purdysburn, form a portion thereof.

The Battle of the Clubs at Cork.

Last week the *Cork Constitution* published a long paragraph in which it was asserted that the local profession had taken steps to prevent trained nurses from attending club patients under the care of the imported medical men. It was stated that a representative of the *Constitution* had interviewed the lady superintendent of one of the nursing homes and had been informed by her that the local medical men had told her that if she continued to lend nurses to cases under the care of the new club practitioners the local practitioners would not have her nurses for any of their patients. Apparently either the reporter misunderstood what had been said to him or the lady interviewed was in a semi-hypnotised condition, for the very next day, in conversation with the mayor, she contradicted the previous statement in almost every essential particular, and admitted that, as a matter of fact, not a single medical man had spoken to her on the subject, and that it was only "rumours and hints" had reached her indirectly. His worship very properly reminded her that it is not always wise to act on rumours and hints. In spite of that the *Constitution* continued to give paragraphs on the subject. The headings were in leaded type, and such expressions as "vile conspiracy" and "degradation of the medical profession" became stock phrases, though the chairman and the honorary secretary of the medical association on being interviewed stated emphatically that the association had not taken any step of the kind indicated. A meeting of the association was held some days afterwards, and a resolution was passed to the effect that no notice should be taken of the libellous and unfounded charge, and it was added that it was quite in keeping with the charges previously made that club patients had been boycotted at the hospitals. Somebody signing himself "Non-Medicus" has written to the newspapers very sensibly and pithily on the subject. He points out that it is quite evident there are many people in the Cork clubs who are well able to pay ordinary medical fees, and he emphasises the fact that an individual who can retain the services of two trained nurses at a fee of £2 2*s.* each per week ought to be able to pay a medical man something more than 10*s.* or 15*s.* for a whole year's attendance; and "Non-Medicus" thinks it was nearly time for the medical men to set about rectifying that state of affairs. Many are now looking at the matter in the same light as "Non-Medicus," and the clubs find they have lost more than they have gained by what was clearly an attempt to sow disunion in the ranks of the medical men. Even the *Constitution* thinks so, for in a leading article it expresses an opinion that the sooner the incident is forgotten the better.

March 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Petrolism.

IN petroleum refineries stringent rules are in force in order to minimise the chances of explosion and fire. With this object manipulations are conducted as much as possible without exposing the petroleum to the air. Toxic symptoms due to the breathing of the vapour are consequently not common. When, however, any laxity in the application of these regulations is allowed, a certain form of symptoms is observed which were described by M. Mabille on Feb. 26th at the Société de Médecine Publique et d'Hygiène Professionnelle, the subject being a workman employed in unloading a petroleum boat anchored at La Palice. The early symptoms recall those of acute alcoholism—cerebral excitement and exuberance of language followed by complete amnesia and prostration. It would appear that there is also a chronic form of petrolism observed especially amongst the miners of the Caucasus and characterised by progressive and long-continued anæmia.

Experimental Rickets.

M. Charrin and M. Gley have for some time past been engaged in experiments calculated to throw some light on the effects on the progeny of animals themselves (the parents) under the influence of different toxines (tuberculin, pyocyanin, &c.). A certain number of the offspring are remarkable for their smallness, the hypertrophy of the extremities of the long bones, and the exaggerated curves of the limbs. In a rabbit shown by them at the Société de Biologie on Feb. 22nd, the parents of which had been infected with diphtheritic and pyocyanic toxines, it was easy to recognise all the symptoms and signs of rickets. The tibial and femoral epiphyses were enormous, all the diaphyses were incurved, particularly those of the fore limb, the thorax was deformed, the ribs presented abnormal angles, recalling the beaded appearance seen in the human being, the belly was large and there was intermittent diarrhœa, the coat was rough, the urine was albuminous, and the body weight (at three months) attained to only 985 grammes, whereas a rabbit from the same litter and reared in the same cage weighed 1810 grammes. In twelve rabbits born of parents subjected to the influence of the above-mentioned toxines the same appearances were in a more or less pronounced degree, discernible. The experimenters remark that it would be difficult to reproduce more faithfully in the laboratory the morbid type observed so commonly in children's hospitals. It would thus seem that the presence of pathogenic bacteria in the blood of animals at the moment of conception influences very strongly the nutrition of their young. We can thus understand the existence of "spoilt" progeny in the case of syphilitic parents through the action of the syphilitic virus.

Treatment of Certain Obstinate Headaches.

M. Galliard[1] calls attention to a form of headache which is distinguished from migraine and syphilitic cephalalgia by its continuity, absence of nausea and vertigo,

[1] Académie de Médecine, Feb. 25th.

and its cessation at night. It is generally limited to the forehead, rarely to the vertex, occiput, or temples. It generally survives any coincident disorder of the primæ viæ that may exist, and is distinct from the persistent headache of neurasthenia, which, however, it resembles in its resistance to ordinary remedies. M. Galliard claims to have successfully treated a certain number of these cases by the exhibition at early morning before breakfast of 10 centigrammes of calomel for six consecutive days. On the third or fourth day diarrhœa sets in with some colicky pains. The gums are carefully watched. The headache generally disappears, but should it persist a similar six days course is resumed after the lapse of a few weeks.

Gynæcology at the Academy of Medicine.

Dr. Pozzi, the well-known gynæcologist, has just been elected a member of the Academy of Medicine. The new academician has rendered yeoman service in his speciality, which, strange to say, is not officially recognised by this Faculty, being merged in general surgery. It is certainly surprising that in the entire programme of lectures delivered at the Faculty no mention is made of the diseases of women. And this with a formidable body of 5000 students to teach! By the foundation of the Hôpital Pascal and his teachings during the last twenty years Dr. Pozzi has rendered incalculable service to the cause of medical education in Paris. When the authorities rouse themselves from their torpor we shall doubtless see Dr. Pozzi appointed to the new chair of gynæcology.

March 3rd.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Uterine Carcinoma.

IN the course of a discussion on the treatment of uterine carcinoma at a meeting of the Budapest Medical Society, Dr. Bücker pointed out that among 11,095 female patients who had been under his care 705 suffered from this disease, these cases being 6·35 per cent. of the total. There is no causal relation between it and delivery, for in 85 per cent. of the cases three years intervened between delivery and the outbreak of the disease. Moreover, a carcinomatous uterus shows symptoms of endometritis and the disease is developed in those situations where endometritis commonly occurs. He, therefore, agreed with the opinion of those writers who hold that endometritis predisposes to uterine carcinoma and advocate a radical treatment of the former condition. Extirpation is to be resorted to as soon as the diagnosis is clear. Supra-vaginal amputation, which has been proposed for carcinoma of the vaginal portion, is unsatisfactory because the end of the stump becomes strictured and there may also remain some carcinomatous particles after the operation. Extirpation by the sacral method is to be performed only in those cases where the cervix is already so much thinned that it breaks down in the course of vaginal extirpation. Vaginal extirpation has been performed in 70 cases with a death-rate of 11·6 per cent., and in 33 per cent. there was no relapse during three years. Professor Tauffer said that the relation between endometritis and uterine carcinoma had by no means been proved; he recommended Péan-Segond's method. Professor Elischer believed that his histological investigations showed endometritis to be a secondary process. He removed tumours the size of a child's head per vaginam, but only in the case of a freely movable uterus. In three cases of radical operation he had obtained gratifying results, one patient having already passed twelve years without a relapse.

"Thyreoiodin."

Dr. Toepfer has published some experiments on "thyreoiodin," a substance isolated some weeks ago by Professor Baumann, who has made the important discovery that iodine is a normal constituent of the thyroid gland in the sheep. "Thyreoiodin" contains 9·3 per cent. of iodine, and is prepared by boiling the gland with 10 per cent. of sulphuric acid and extracting with alcohol. It possesses not only the same physiological effect as thyroid extract, but also as the whole gland, and it becomes inert when the iodine is removed from it. In 30 grammes of sheep's thyroid gland there was 0·009 gramme of iodine.

Prague General Hospital.

According to published statements by Dr. Grossmann overcrowding prevails to a shocking extent in the Prague General Hospital, which at present contains 1418 patients, although there are only 1186 beds, 82 of which are reserved for infectious diseases. The number of annual admissions has increased from 9871 in the year 1870 to 13,169 in 1885 and to 18,195 in 1895. Patients sometimes have to lie on the floor in rooms without means of ventilation, the heating arrangements are inadequate, and the beds are swarming with vermin. Eight persons sleep in rooms which are barely large enough for four, the work of the nurses is inefficiently performed, and the poorer class of patients suffer under the prevalent system of gratuities to officials. The medical staff attend gratuitously for three years; they are then appointed at a permanent salary of £35, and have to be on duty for twenty-four hours every third day. The University of Prague, which was founded in 1348, numbers among its professors some of the foremost teachers in Austria, and it is surprising that such abuses should have existed so long in a hospital where the medical staff stand high in professional and general estimation. The Government have instructed Herr Wolf, a sanitary expert, to take measures for the mitigation of the present intolerable state of affairs.

Acetonuria and Mental Disorder.

Professor Wagner, Dean of the Vienna School of Medicine, in the course of a paper on Gastro-intestinal Derangement and Mental Disorder read at a meeting of the Medical Society, said that acute disease of the brain is not uncommon as a sequel of febrile illnesses, and that a similar relationship exists between infectious diseases and polyneuritis, for polyneuritis may be caused not only by toxic agents, such as alcohol or lead, but by specific infectious diseases, such as enteric fever or pneumonia, and by impairment of the gastric functions. On the supposition, however, that infectious diseases are not due directly to the specific micro-organisms but to the toxines elaborated by them, all these causes may be regarded as toxic in their nature. There are also forms of mental disorder due to the results of perverted gastro-intestinal action, the most remarkable of these being acetonuria, which was first described by von Jaksch. Acetone, no doubt, originates in abnormalities of the gastro-intestinal function, and acetonuria is a result of perverted metabolism, which may lead to the formation of toxines capable of producing serious mental disturbance, amentia being the most usual symptom. In these cases Professor Wagner has tried iodoform in daily doses of one gramme divided into ten parts, each of which, therefore, contains about two grains. Acetonuria is, in his opinion, due either to micro-organisms or to fermentative processes in the intestine, and as the mental condition of the patients improves concurrently with the disappearance of the acetonuria he suggested that disinfection of the gastro-intestinal tract would probably be useful in these cases.

March 1st.

PHILADELPHIA.

(FROM OUR OWN CORRESPONDENT.)

Report of the Board of Health.

THE report of the board of health for the year 1895 shows the health of this city to have been unusually good during the year. Based on a population of 1,163,864, the mortality was 18·79 per 1000, less than any year for fifteen years except 1888, 1889, and 1894. Several factors contributed to this result—viz., the introduction of impervious and Belgium block paving, the abolishment of cesspools, a more vigorous enforcement of the Notification Act and house-to-house inspection, supplemented by police surveillance of infected houses. Among children under five years of age there were 8401 deaths, which is 35·30 per cent. of the total mortality. There were 30,354 births. An interesting fact is noted in the report of the city bacteriologist, Dr. D. Meade Bolton, and that is, that peroxide of hydrogen seems to prolong the duration of diphtheria. In 80 cases in the Municipal Hospital, in which peroxide was used locally, the average duration of the cases was 35·9 days, while of those cases in the same institution in which no peroxide was employed the average duration was only 32·3 days. Thirty-two cases occurring in private practice and treated with the same drug had an average duration of 25·8 days, and cases not so treated 23·6 days. In 10 cases where bichloride of mercury was used the average duration was 19·9 days. Dr. Welch, of the Municipal

Hospital, reports 302 cases of diphtheria treated with antitoxin with a mortality of 28·14 per cent., while among those not receiving the antitoxin the mortality was 25·99 per cent. In the former group the injection was not made until the fourth or fifth day, and very often later in the course of the disease. This renders the report of little comparative value therefore.

The Unemployed.

The question, What shall be done with the poor? is a serious one indeed. Presidential year is usually depressing to business, an undercurrent of distrust and uneasiness generally prevailing. This, coupled with the financial depression of the past two years, has served to swell the army of the unemployed. Mayor Piugree of Detroit some time ago proposed that the poor should be permitted to raise potatoes on vacant city property. The idea was favourably received and successfully put in operation in Detroit and later in New York, as the following report, issued by the Detroit committee and endorsed by that of New York testifies: "The experiment has clearly demonstrated that many of the destitute are ready and willing to work; that a large number of these people can be supported by utilising vacant land in the outskirts of the city; that trespassing even upon unfenced lands is not a serious difficulty; that a small space of ground is sufficient to raise enough vegetables to support a family through the winter; that a majority of the citizens who own the vacant land would rather allow it to be cultivated by the poor than pay a large tax for their support; that the needy are thereby assisted without creating the demoralisation in the habits of the people that gratuitous aid entails; and that much relief and real help may by this plan be afforded with small expense by charitable persons to taxpayers." The plan has proved so eminently successful that I think it is probably safe to predict it will be in operation in many cities before long.

The William Pepper Laboratory of Clinical Medicine.

The above laboratory recently presented to the University of Pennsylvania by Dr. Pepper in memory of his father, the late Dr. William Pepper, is a substantial four-storey building, containing chemical and bacteriological laboratories, rooms for the pursuit of anthropometrical studies and the study of blood pressure, respiration, &c. It offers exceptional facilities for original investigation, post-graduates only being accorded the privileges of the institution.

Feb. 16th.

Obituary.

THOMAS WILLIAM THOMPSON, M.R.C.S. ENG., L.R.C.P. EDIN., D.P.H.,

MEDICAL INSPECTOR OF THE LOCAL GOVERNMENT BOARD.

BY the early and sudden death of Mr. T. W. Thompson the Medical Department of the Local Government Board has sustained a very severe loss. Mr. Thompson was endowed with intellectual attributes of no mean order; his mental processes were of a highly philosophical and deeply reflective type, while his modest, sympathetic nature and courteous manner lent to his handsome, soldierly presence peculiar charm. To paint a faithful picture of a nature such as his is no easy task. Mr. Thompson received his professional education at University College Hospital, London, and after holding residential appointments at other hospitals he joined the Army Medical Department and proceeded to the Madras Presidency, where he served with the Royal Horse Artillery. His sojourn in India was, however, but of short duration, as a severe attack of enteric fever, from which he barely escaped with his life, rendered his return to England a necessity. On his recovery he was successful in obtaining the post of surgeon to the 1st Life Guards, which he held for some six years, at the end of which time he resigned his position in the army and, marrying, entered private practice. During these years Mr. Thompson kept up his medical and scientific reading, while his love of the more speculative philosophy had already commenced to manifest itself.

Although in private practice Mr. Thompson was eminently successful, not a few of the social duties entailed upon him by it were somewhat alien to his mental habit; and, longing for work of a more definitely scientific character, he took the Diploma of Public Health and obtained the medical officership to the Herts and Middlesex combined sanitary districts. It was very shortly after entering the public health service that Mr. Thompson's great ability, administrative and scientific, began more especially to manifest itself, and it was not long before the Local Government Board recognised in him an epidemiologist of no common type, while a paper upon a scientific subject which he had contributed to THE LANCET[1] showed that he excelled in clearness of exposition and method of treatment. In the winter of 1890 the lamented death of Dr. David Page of the Local Government Board created a vacancy in the department, and the Board were fortunate enough to obtain in the spring of the same year the services of Mr. Thompson.

Of his work under the Local Government Board it must suffice here to remark that everything he did and wrote was up to the very highest standard of the medical department, and that there pervaded it all that same scientific and truth-seeking spirit which characterised his life. Probably Mr. Thompson's best known work—apart from his valuable reports to the Local Government Board—was the article he contributed on the "Natural History of Infectious Diseases" to Stevenson and Murphy's Standard Treatise on Hygiene and Public Health. In the introduction to that article Mr. Thompson established a very high reputation. He dealt in the most lucid and facile manner with the problems of infectious disease as viewed from the standpoint of organic evolution, discussing, on the one hand, the *de novo* and immutable stability hypotheses of infectious disease, and on the other the thesis of relative stability. He pointed out how in a certain sense at least there might be in some degree reconciliation between these apparently conflicting doctrines. Perhaps we cannot do better than repeat here what was said in our columns[2] during Mr. Thompson's lifetime of the article to which we are referring: "It is no light tribute to Mr. Thompson's monograph to say that he has succeeded better than any other writer with whose work we are acquainted in the English language in conveying a faithful picture of what is known of the epidemiology of each of the principal diseases of which he treats."

In spite of his high intellectual attainments Mr. Thompson was of the most modest disposition, and it was with great difficulty that he was prevailed upon to read a paper before the Epidemiological Society of London in November last. That paper, Considerations in Respect to "Return" Cases of Scarlet Fever, was much appreciated by those who heard it, and we reproduced it in full in our columns in the following week.[3] The author during certain inquiries into this subject had been impressed with the fact that, although at times these so-called "return" cases may be due to maladministration on the part either of the hospital or of the sanitary authorities, that neither the one nor the other of these occasional causes suffices to explain all the observed facts, and that "there are in all probability some more obscure factors at work, factors perhaps closely bound up with the natural history of scarlet fever." Thus much of Mr. Thompson's professional life.

Of that form of ambition which tempts some to hustle in their search for notoriety even their friends and colleagues, Mr. Thompson was absolutely devoid. His one aim seemed to be to do his work to the utmost of his ability, and to be able if possible to keep in touch with modern science and philosophy. Unfortunately, however, for what he would have termed his intellectual recreation, his official duties were a matter of such conscientious concern to him that his work in this direction occupied almost his whole energies. It was doubtless for this reason that, although when he died he was but forty-four, he was fond of looking forward when his official years were over to retirement into absolute simplicity of life, where, surrounded by his books and, if possible, within reach of those of his friends who might be left to him, he could enjoy to the full his well-earned repose. Death found Mr. Thompson actually engaged in an important sanitary survey in South Wales. His wife, his constant companion in all his pursuits, was with him at the time when he expired after a few hours' illness on Feb. 25th. At his funeral, which took place at North Mimms in Hertfordshire, there were indications from every quarter of the deep respect and affection in which he was held, and amidst the numerous and beautiful wreaths was one inscribed, "A token of the affectionate regard and the deep esteem of his colleagues in the Medical Department of the Local Government Board." In conclusion it can only

[1] THE LANCET, April 26th, 1885.
[2] THE LANCET, March 24th, 1894.
[3] THE LANCET, Nov. 23rd, 1895.

be said that as his many friends and colleagues stood in the silent and picturesque country churchyard they must have felt, in spite of their regrets, that they were the better and the broader-minded for having known him, and that the spirit of him they mourned had in very truth "joined that choir invisible whose music is the gladness of the world."

DUGALD BLAIR BROWN, L.R.C.P., F.R.C.S. EDIN.,

SURGEON-LIEUTENANT-COLONEL, ARMY MEDICAL STAFF.

WE regret to have to record the death of Surgeon-Lieutenant-Colonel Blair Brown, which occurred on Jan. 27th as the result of an accident. Whilst he was riding from the Section Hospital, Meean Meer, his horse took fright and bolted and he was thrown on his head, sustaining a fracture of the base of the skull, from which he died the same evening without having regained consciousness. The funeral took place in the Royal Artillery Cemetery on the afternoon of Jan. 28th, and was attended by Sir George Wolseley, the general officer commanding the Lahore district, and his staff, together with the officers of the station. The deceased was very popular with officers and men of all ranks, and his melancholy end is deeply regretted.

Surgeon-Lieutenant-Colonel Blair Brown became a Licentiate of the Royal Colleges of Physicians and Surgeons of Edinburgh in 1868 and was admitted to the Fellowship of the latter College in 1876. He was an able and skilful operator and most painstaking in carrying out antiseptic details. He was in his forty-ninth year and was unmarried. He had seen a considerable amount of active service, firstly in the South African War of 1879–81, being present at the battle of Ulundi, which was fought against the Zulus under Cetewayo. For his conduct in this action he was mentioned in despatches (*London Gazette*, Aug. 21st, 1879), and received a medal with clasp. He was also with the Natal Field Force in the Transvaal campaign and performed a number of important operations and resections, gaining for himself the credit of being the first British army surgeon to successfully resect the wrist-joint in the field—a piece of good fortune which fell to his share during this campaign, in the course of which he used boiled water for operations and for dressing wounds. He also served in the Burmese Expedition of 1885–86 and received a medal with clasp.

ARCHIE TILLYER COLLUM, M.B. LOND., F.R.C.S. ENG.

IN our issue of Feb. 22nd we recorded the death of this most promising and able young surgeon at the early age of twenty-eight. He was educated at Epsom College and entered Charing-cross Hospital as Epsom scholar in 1885. He soon made his mark as an exceptionally brilliant student, and was appointed assistant demonstrator of anatomy in his second year of study. He took the qualification of the Conjoint Board in 1890 and obtained the appointments of house surgeon and also house physician to the hospital in the same year. In 1892 he was elected surgical registrar, and in 1894, although only twenty-six years of age, he became assistant surgeon and joint demonstrator of anatomy and surgical tutor after graduating as M.B. Lond. and F.R.C.S. Eng. As a teacher he was sound and practical, and he possessed the gift of being able to impart his knowledge clearly and concisely, so that the dullest could comprehend and the idlest profit. His genial and friendly manner attracted all alike, whilst his scrupulous straightforwardness and fairness, whether in the football field or elsewhere, won him universal respect. He was requested last year to act as treasurer to the students' club, and did so up to the time of his death. Evidence of his popularity amongst students is afforded by a letter suggesting a memorial to him which we publish in another column. Students, both past and present, will deeply and unfeignedly mourn his loss.

His fatal illness was an obscure form of septicæmia, doubtless contracted somehow in the performance of his duties. He struggled manfully against its insidious progress for a fortnight or more, and only gave up work at last when it was obvious to himself, as it had already been to his friends, that he was too ill to continue at his post. He was thus a martyr to his calling, as so many young and rising physicians and surgeons are fated to be. It cannot be doubted that had he lived the bright hopes which those who knew him entertained for him would have been fulfilled, and that his career would have continued to be as honourable and useful as it was during his short life. He was the fifth son of Dr. Collum of Surbiton.

JAMES W. ILOTT, M.R.C.S. ENG., M.S.A.

WE regret to announce the death of Mr. James W. Ilott-M.R.C.S., M.S.A., on Feb. 21st, at his residence, Beech, field, Bromley, Kent, at the age of eighty. He was born in 1815, his father being a member of a firm of practitioners who had carried on practice in Bromley for over a century. Mr. James Ilott studied medicine at St. Bartholomew's Hospital and took the old double qualification in 1837. He then became house surgeon to Sir William Lawrence and a year later joined his father in partnership. He remained in practice for nearly fifty years. He became highly popular in Bromley for his public spirit, which induced him to encourage every local reform and to work on several committees of public institutions, notwithstanding hard professional labour. He will remain known to men of letters and of science for good work in local archæology and geology, in the course of which he collected a library of antiquarian works and a valuable collection of fossils.

ARTHUR NICHOLSON, L.R.C.P. EDIN., L.R.C.S. EDIN., L.F.P.S. GLASG., & L.M.

THE bloodless Ashanti campaign has been responsible for many deaths, and among them we regret to have to record the death of Mr. Arthur Nicholson, late of Bradford and more recently of Haxey, near Rotherham, who succumbed to malarial fever on his way home from the Gold Coast as an invalid to recruit. In July last Mr. Nicholson was appointed resident surgeon at Accra on the Gold Coast, and on the breaking out of hostilities was appointed lieutenant-surgeon with the flanking expedition which approached Kumasi from the north, and during the expedition contracted the fever from which he died. Previously to his colonial appointment he held the post of house surgeon and senior dispensary surgeon at the Bradford Infirmary. He received his medical education at the Royal Infirmary, Glasgow, where he was prizeman in anatomy, practical physiology, and pathology. As a member of the Bradford Medico-Chirurgical Society his death will be much regretted by his fellow practitioners, and his loss will be deeply deplored by his friends, among whom he was held in high esteem.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. P. Hedenius, Professor of General Pathology, Pathological Anatomy, and State Hygiene in the University of Upsala. He was President of the Upsala Medical Society and was the writer of numerous papers on pathology. His best known literary work consisted, however, in his contributions to Hirsch and Gurlt's well-known Dictionary of Medical Men.—Dr. Guido Wagener, Honorary Professor and formerly Prosector in Anatomy in the University of Marburg, to which university he came from Berlin with Lieberkühn in 1867. He was seventy-four years of age.—Dr. Henri Collard, Corresponding Member of the Liége Medical Commission.—Dr. E. Gonne de Posson, a well-known Belgian practitioner who had for many years taken an active part in the various professional struggles which have at various times agitated the profession in Belgium. He was seventy-two years of age, and had been decorated with the Civil Cross and was a Knight of the Order of Leopold.—Dr. Laënnec, Professor of Physiology and Principal of the Medical School of Nantes.—Dr. Zsigmond Purjesz, Lecturer on the History of Medicine in the University of Budapest.—Dr. Ernest Goodman, formerly Professor of Surgery in the Medico-Chirurgical College, Philadelphia.

MEDICAL TRIAL.

KINGSBURY *v.* HART.

IN Manchester last week, before Mr. Justice Kennedy and a special jury, the action "Kingsbury *v.* Hart" was tried. It was brought by Dr. George Kingsbury, a medical man, who had been in practice at Blackpool for several years, against the editor of the *British Medical Journal*, Mr. Ernest Hart, to recover damages for an alleged libel.

Mr. McCall, Q.C., Mr. C. A. Russell, and Mr. Bradshaw appeared for the plaintiff, and Mr. Bigham, Q.C., and Mr. F. H. Mellor for the defendant. In 1883 the plaintiff commenced his connexion with an hydropathic establishment at Blackpool, where a consultation-room was set apart for him. In the next year he became physician to a similar institution in another part of the town called the "Imperial." From neither of these two institutions did he receive any emolument. In 1895, however, the former establishment passed into different hands, and the new proprietor issued a circular to the medical men of the district inviting tenders from duly qualified doctors for the privilege of daily attendance at the hydropathic establishment, part of the terms being that a room was to be supplied for consultation. There was a further proviso that any inmate of the establishment was to be free to select any medical attendant from outside. The circular was sent to the *British Medical Journal* and there commented upon to the effect that any medical man responding to it would depart from the traditions of the profession. In the result the person who had issued the circular wrote to the paper admitting that it was an improper one and regretted that it had been sent out. In January last a question appeared in the paper from "X. Y. Z.," asking whether it would be regarded as infamous conduct or censurable if he allowed his name to appear on the prospectus of a large hotel as its physician. In reply the editor stated his opinion to be that such a course would be regarded as covert and unprofessional advertising and would involve severe criticism and rebuke. Later on in January, under the heading "Hotel Physician," appeared an expression of opinion that "the medical man in question has not only disparaged the honourable traditions of the medical faculty, but contravened the well-understood rule of modern practice. Need we add that so reprehensible a departure from professional rule, in face, too, of the protesting dissent of the local practitioners, and in the absence, moreover, of our (self)-solicited opinion, the expression of which was unavoidably delayed for a week, is wholly incompatible with the honour and dignity of the profession, and justly subjects him to medical reprobation." There was no dispute that the plaintiff was the person referred to. The plaintiff stated that at the request of the proprietors he had given his consent to the fixing of a brass plate outside the Imperial, upon which his name and qualifications appeared. His name also appeared upon prospectuses. Dr. Renaud, consulting physician to the Manchester Royal Infirmary, said that he had frequently attended consultations with the plaintiff, and his opinion was that he had not done anything in contravention of the best traditions of the profession or of any rule. Other medical evidence to a similar effect was given. Mr. Bigham said that Mr. Hart had no personal feeling against the plaintiff, and had simply drawn attention to the matter in the *Medical Journal* as one of great interest. Sir Dyce Duckworth stated that, having read the questions, he had no doubt that the circumstances there described amounted to a violation of a well-known rule. He did not object to his own name and qualifications appearing upon the prospectus of an insurance company. Sir William Stokes, President of the Royal College of Surgeons, Ireland, gave evidence to the same effect, as did also Dr. Cousins of Southsea, and Dr. Bateman of London. His lordship having summed up, the jury retired, and ultimately found a verdict for the plaintiff with £150 damages.

In another action by the same plaintiff against John Grime, for having republished the libel in the *Blackpool Gazette and News*, a verdict was taken by consent for the plaintiff with £20 damages. Mr. McCall, Q.C., Mr. C. A. Russell, and Mr. Bradshaw again appeared for the plaintiff; and Mr. Shee, Q.C., and Mr. F. H. Mellor for the defendant.—*The Times*, March 2nd, 1896.

Medical News.

THE ROYAL SOUTH HANTS INFIRMARY.—At the annual meeting of the Royal South Hants Infirmary, Southampton, an amended scheme was put forward by the committee, who had had the matter under consideration during the whole of the year, for the alterations and additions to the buildings. The first estimate, put forward as long ago as December, 1894, had been reduced to £19,000, which is considered to be the minimum consistent with sanitary efficiency. The scheme was approved by the meeting, and £5000 worth of stock is to be sold towards the building fund, further subscriptions to the extent of over £5200 having also been promised. There is a deficit of £470 on last year's working, and this also is to be met by the sale of invested property.

MEMORIAL WINDOWS TO THE LATE MR. JOHNSON OF LANCASTER.—Two beautiful stained glass windows, erected by public subscription, in St. John's Church, Lancaster, were dedicated on Sunday, Feb. 23rd. The windows are situated one on either side of the chancel and represent "The Good Samaritan" and "Healing the Sick at the Gates of the Temple." They are the workmanship of Messrs. Sprigley and Hunt, the well-known ecclesiastical designers. The inscriptions read:—"In Memory of Christopher Johnson, F.R.C.S., Mayor of Lancaster 1857; warden of this church 1881–86, a benefactor of this church; born April 6th, 1816; fell asleep Nov. 6th, 1894." "In Memory of Christopher Johnson, F.R.C.S., J.P., a kindly physician, a patriotic Englishman, and a humble Christian. From youth to old age he lived his life after the sacred words, 'Fear God and honour the King,'" this being the motto of a banner which the deceased carried at local celebrations in honour of the coronation of William IV.

THE Bishop of Rochester has become a Vice-President of the Church Sanitary Association.

THE PRESTON GAOL MEDICAL OFFICER.—Dr. Moore, after over thirty-seven years' service, has resigned the appointment of medical officer to H.M. Prison, Preston. His son, Dr. Walter Francis Moore, who for some time past has acted as his deputy, has been appointed by Her Majesty's Commissioners of Prisons as his successor.

ANNUAL MEETING OF THE BATH EYE INFIRMARY.—The annual meeting of the Bath Eye Infirmary has been held recently, when it was stated that there had been 300 more patients than in 1894. The deficit in the account was £43. Thanks were extended to Mr. W. M. Beaumont, the honorary surgeon, who was voted the usual honorarium of 50 guineas.

HUNTERIAN SOCIETY.—An ordinary meeting of the Hunterian Society was held in the theatre of the London Institution on Wednesday, Feb. 26th, 1896, when Mr. Knowsley Thornton delivered the second Hunterian Lecture on the Lines of Advance in Abdominal Surgery. A vote of thanks to the lecturer was proposed by Mr. Charters Symonds and carried with applause.

PRESENTATION TO MR. CORNELIUS HANBURY, M.R.C.S., L.S.A.—On Saturday afternoon last the employés and friends of Messrs. Allen and Hanburys, of Plough-court, Lombard-street, London, E.C., presented Mr. Hanbury, the head of the firm, with his portrait as a mark of their esteem and respect. The presentation was made at St. Andrew's Institute, Bethnal-green, where an excellent programme of music terminated the proceedings.

THE DIFFUSION OF SMALL-POX.—For the seventh successive week, up to and including Saturday last, there has been no death registered in London from small-pox. There can, therefore, be no doubt that the disease in the metropolis is distinctly on the wane, and it is greatly to be hoped that the spread which seems to be taking place in our western counties will not reach London. The news from Oxford at the close of February showed that no fresh cases had arisen in that city for some days, the end of the month leaving only 8 persons under treatment from the disease. In Gloucester a serious state of things is present, the disease having within the past three weeks increased to as many as 60 cases in one week alone, and the powers of the sanitary authorities to cope with the existing condition of affairs seem to be strained to the uttermost. In Lancashire a case was reported at Salford last week, the only one there for some time; Manchester having also been free for many successive weeks. In Glamorganshire Dr. Williams, the county medical officer of health, reports that during the first two months of this year there have been 25 cases of small-pox notified in that administrative county—namely, 4 from Pontardawe West, 2 respectively from Aberdare, Pontypridd, and Pontardawe East, 3 from Aberavon, 5 from Merthyr Tydfil, and 7 from Brigend. Up to the close of last week no fresh case of small-pox had arisen at Cardiff workhouse since Feb. 20th, the only suspicious attack being that of a man from Port Talbot who had been admitted to the workhouse last Friday, and who was sent to the sanatorium at once. Complaint was raised at the meeting of the guardians last Saturday that many of the Aberavon lodging-houses were unregistered, and thus inaccessible to the police for purposes of inspection. At the close of last week the Bridgend urban district council had reported to them the seizure of their surveyor by small-pox, as well as of 2 other persons in the town, all three being, on the facts coming to the knowledge of the health officer, at once sent to hospital. No further cases having been recorded at Brynmawr, the decision to erect a temporary small-pox hospital has been abandoned, and use made of the common lodging-house in which cases have already been discovered. The public vaccinator at Llanelly has recently been busy re-vaccinating the county police force stationed there, except such members as were operated on three years ago. Fresh cases of small-pox have been taken to the borough hospital at Swansea, those of last week coming in from the town itself, from Pontardulais, Mumbles, and Cwmbria. At the close of the week there were 12 patients still in hospital out of the total of 15 reported this year. A case at Rhondda last week was at once removed to hospital. Dr. Williams has raised the question of procedure under the Isolation Hospitals Act in Glamorganshire, and deputations

from several of the constituent districts have been before the sanitary committee of the county council for the purpose of considering the erection of two hospitals, one for small-pox and the second for other infectious diseases. At Blackwood, in Monmouthshire, there have occurred 2 more cases of small-pox at the common lodging-house, the persons now attacked being those who waited on the previous patients. At Carnarvon one of the crew of the *North Cambria*, which steamship lately landed many of her hands at Limerick sick of small-pox, has developed the disease four days after return, and correspondence has elicited that he was held to be suffering from a mild attack on reaching Limerick, and was accordingly isolated with the other patients. Not showing any pronounced rash, he was later placed alone in another part of the building and vaccinated. Whatever the nature of his first attack, his second seems to be undoubtedly small-pox. The admission to hospital at Dublin of a single case of small-pox in the week ending Feb. 22nd left in the institution on that date four patients suffering from the disease. No death occured from the malady.

FOOTBALL CASUALTIES.—On Feb. 8th at Ewell, Surrey, in a match between the Ewell and Guy's Hospital teams, a player of the latter side fractured his leg and was removed to Guy's Hospital. On the same day, during a match on the Caldecot ground, Abingdon, the Abingdon Rovers against the Clothing Factory team, a player sustained a fracture of the right leg; in a game between the Sunningdale and Eton Temperance teams the captain of the latter team fractured his fibula; and in the course of a match on the same day, the Birkenhead Wanderers against the St. Helens Recreation teams, a well-known three-quarter back of the Birkenhead Wanderers received a kick on the head. He continued playing till the end of the match, but the following day he was found to be suffering from concussion of the brain. Pneumonia supervened, to which he succumbed on Feb. 15th.—On Feb. 15th in a match, the Chichester Reserves against the Littlehampton team, a youth sustained a compound fracture of the left leg, and in a game on Feb. 17th at the Steyning Grammar School a youth fractured his left forearm.—On Feb. 20th, in a match on the Richmond (Surrey) Athletic Ground between the Yorkshire and Surrey Clubs, a player fractured his clavicle.—On Feb. 22nd during a match between the Grantham Olympic and Grantham Victoria teams a player fractured his right leg near the ankle; and on the same day in a match at Pudsey between the Pudsey and Elland teams the Pudsey full back was injured. On medical examination subsequently it was found that the muscles of the leg were very severely bruised.

THE PRINCE OF WALES AT BRIGHTON.—His Royal Highness the Prince of Wales, K.G., visited Brighton on Saturday last to lay the foundation stone of a new out-patients' department of the Sussex County Hospital, which is being built at a cost of £3818, and which is but part of a scheme of extensive enlargement of the hospital accommodation which is receiving the attention of the management. The Prince arrived in Brighton, which was crowded with visitors and decorated most elaborately, just after noon, and was joined by the Duke and Duchess of Fife, who are at their Brighton residence, and welcomed by the Mayor and Corporation. A procession was then formed to Pastonplace, where, opposite the present buildings and on the site of the new extension, the principal ceremony took place. An address was read from the Corporation, the Mayor (Alderman Blaker) having taken a prominent part in the financial effort, which is to benefit the hospital, and His Royal Highness, in reply, expressed the hope that the sum of £25,000 which is required to carry out the scheme in full, would be meet by the prompt response to the committee's appeal of the borough and county. A short service followed, the newly enthroned Bishop of Chichester (Dr. Wilberforce) offering prayer, and then, with a suitable mallet and trowel, the stone was duly laid. The Duchess of Fife then received from a number of ladies and children purses on behalf of the building fund, a total of £1690 being contributed by this means. Subsequently His Royal Highness inspected the wards of the hospital and was entertained at luncheon at the Royal Pavilion by the Mayor and Mayoress. This was semi-private, the Duke and Duchess of Fife, the Duke of Norfolk, the Marquis of Abergavenny, the Bishop of Chichester, and local dignitaries to the number of about a score alone being present. His Royal Highness was the guest of Mr. Reuben Sassoon, and on Sunday among other visits went around the wards of the Royal Alexandra Hospital for Sick Children, at the opening of which, by Her Royal Highness the Princess of Wales, the Prince and his children were present.

BURNING FATALITIES AT PORTSMOUTH.—No less than four deaths from burns occurred in four days at Portsmouth last week. The first case was that of a little girl of eight who set her clothes on fire at an unprotected grate. The bones of the hands and right forearm were exposed, but she had been kept alive at the hospital since Dec. 20th last, when the accident occurred. A second case was of the same character, a three-year-old boy and a younger child being left near an unguarded fire. A third patient, a lad of twelve, set his clothing ablaze when lighting the fire; and the fourth case was that of a woman of sixty-five, who was found lying on the floor badly burned. It was supposed—for she was dead when found—that in a fit she overturned a table and a paraffin lamp.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Food Products Adulteration.

NINETEEN members have been nominated to serve on the Select Committee of the House of Commons on this question. Most of them are gentlemen who served on the committee appointed by the late Parliament, but there are necessarily several new-comers. It will be matter of regret to medical men that Sir Walter Foster's name does not appear among the nominations.

Public Health Bill for Ireland.

The Government has introduced into the House of Commons a Public Health Bill for Ireland. It is a Bill of twenty-seven clauses, and, for the most part, it extends the operation of the existing law without effecting any serious changes. It enables the sanitary authorities of adjoining districts to combine together for the purpose of executing works that may be for the benefit of their respective districts; it provides for the constitution, jurisdiction and expenses of port sanitary authorities, and it contains a clause intended to remove doubts which have arisen as to the meaning of the expression "medical officer of health" in the application to Ireland of the Infectious Disease (Notification) Act, 1889, and the Infectious Disease Prevention Act, 1890. This clause says the expression shall mean the medical officer of the dispensary district, but makes it competent for the Local Government Board, where a medical superintendent officer of health is appointed for a sanitary district, to direct that he shall be substituted for the medical officer of the dispensary district.

Accidents with Petroleum.

Arrangements have been made for the further prosecution by a select committee of the House of Commons of the inquiry into the sufficiency of the law as to the keeping, selling, using, and conveying of petroleum and other inflammable liquids, and the precautions to be adopted for the prevention of accidents with petroleum lamps.

HOUSE OF COMMONS.

THURSDAY, FEB. 27TH.

The Vaccination Question at Gloucester.

Mr. Chaplin, replying to a question, said that his attention had been drawn to the observations of the Judge of Assize as to the non-enforcement of vaccination in the Gloucester Union, and he was aware of the fact that in consequence of the outbreak of small-pox the assizes were held at Cheltenham instead of at Gloucester. He had been in communication with the guardians of the Gloucester Union on the subject. It was admitted by them that there had been a failure on their part to enforce the provisions of the Vaccination Acts. Since the outbreak of small-pox occurred they had issued notices urging the parents of unvaccinated children to obtain their immediate vaccination. Special arrangements had been made for the attendance of the public vaccinators, and there had been more than 2000 cases of primary vaccination and re-vaccination since the outbreak.

Fever among the Troops in India.

Mr. Caldwell asked the Secretary of State for India whether his attention had been called to the prevalence of enteric fever amongst the European troops in India, and whether he would cause inquiry to be made as to the disposal of the night soil and manure collected in the bazaars and districts of the various cantonments where such enteric fever exists, and in particular as to the size and extent of the manure yards, and how far the night soil and manure are buried, and the seasonal cultivation of the land neglected.—Lord George Hamilton replied: The subject of the prevalence of enteric fever among the British troops in India was considered by a special committee in India a few years ago, and the Government of India are fully alive to the importance of taking all sanitary precautions, including those referred to in the second part of the question to check this disease. The subject is one which is constantly engaging their attention.

FRIDAY, FEB. 28TH.

Stimulants in Irish Workhouses.

Mr. Daly asked the Chief Secretary to the Lord-Lieutenant of

Ireland if he was aware that the Carrickmacross board of guardians passed a resolution requesting the Local Government Board for Ireland to sanction a reduction in the cost of stimulants from 15s. 7d. per inmate to 3s. 10d. in Carrickmacross Workhouse, which was refused by the Local Government Board for Ireland; and whether 3s. 10d. per inmate is seven times more than is expended in either Clones or Monaghan Workhouses on stimulants?—Mr. Gerald Balfour replied that a resolution substantially to the effect stated was passed by the Carrickmacross guardians in December, 1894. Their medical officer, however, pointed out that he prescribed stimulants only in cases where he honestly and conscientiously believed them to be the best treatment for the cure of disease, the prolongation of life, and the alleviation of suffering; and while he was prepared to carry out the order of the guardians the responsibility of his doing so must rest entirely with them. In consideration of this expression of the medical officer's views the Local Government Board thought it prudent to remind the guardians that under the workhouse rules the medical officer has discretionary power to order such stimulants for the sick poor under his care as he may consider necessary, and that the guardians should not interfere with his discretion in the matter by a resolution of the nature adopted by them, which proposed a hard-and-fast reduction without due consideration of the requirements of each particular case. The cost of stimulants per head of the inmates in the Clones and Monaghan Workhouses in 1893 was about 1d. and 6d. respectively.

Lunacy Statistics.

Sir Matthew White Ridley, answering a question put to him by Mr. Hobhouse, said that the increase in the number of lunatics in England and Wales during the years 1885–93 was 15·5 per cent. and in Ireland 21·8 per cent. The increase in England and Wales during 1893 and 1894 was 2·5 and 2·3 per cent. respectively, and in Ireland during 1894 and 1895 together it was 5·7 per cent. He was not in possession of the figures for Scotland. The question of the causes to which this increase was due had engaged the attention of the Lunacy Boards of all three countries.

MONDAY, MARCH 2ND.

Sickness in the Army.

Colonel Lockwood asked the Secretary of State for War if he would state the percentage of recruits between the ages of twenty and twenty-five that pass through hospital, and what is the percentage of recruits admitted sick during their first year of service.—Mr. Brodrick replied: The medical returns do not treat recruits separately from other soldiers. The admissions to hospital vary so greatly in the different foreign commands that any percentage based upon averages would be misleading, but as regards the United Kingdom for the last year for which the returns are made up, 1894, the admissions per cent. of soldiers between twenty and twenty-five years old was 94·5, and of soldiers in their first year of service 87·6. But these figures include men who were admitted several times over, and we have no returns to show the proportion of men per cent. admitted.

TUESDAY, MARCH 3RD.

Disciplinary Duties of Army Medical Officers.

Dr. Farquharson asked the Under-Secretary of State for War whether a medical officer, if he happened to be the senior in rank, was required to exercise disciplinary power, place under arrest or report for any misconduct one or any of a number of combatant officers in case of the senior combatant officer not exercising his authority?—Mr. Brodrick replied in the affirmative, adding that the clause in the Army Act which enjoins every officer, whether senior or not, and of whatever arm or branch of the service, to exercise authority in case of disorder, is binding on medical officers.

The Royal Commission on Tuberculosis.

It had been the intention of Mr. Knowles to bring to the notice of the House certain points in the report of the Royal Commission on Tuberculosis, but when the order was reached there was no time for a speech, and the hon. gentleman contented himself with moving: "That it is expedient that the Commission be reappointed and the scope of its inquiry extended, so that it may further inquire and report on administrative procedures available for reducing the amount of tuberculous material in the food supplied by animals to man." This motion was accepted by the Government and the House.

BOOKS, ETC., RECEIVED.

ARROWSMITH, J. W., Quay-street, Bristol.
A Few Medical and Surgical Reminiscences. By Augustin Prichard, Surgeon. 1896.

BAILLIÈRE ET FILS, Paris.
Manuel du Médecin Praticien. La Pratique des Maladies du Larynx, du Nez, et des Oreilles dans les Hôpitaux de Paris. Par Paul Lefert. 1896.

BAILLIÈRE, TINDALL AND COX, King William-street, Strand, London.
The Maybrick Case. A Statement of the Case as a Whole; being Three Letters addressed to Sir M. W. Ridley, Bart., M.P., and A. W. MacDougall, B.A. Cantab. 1896.

CHATTO AND WINDUS, Piccadilly, London, W.
The Cruciform Mark: the Strange Story of Richard Tregenna, Bachelor of Medicine (Univ. Edin.). By Riccardo Stephens, M.B. 1896. Price 6s.

CHURCHILL, J. & A., Great Marlborough-street, London.
The Schott Methods of the Treatment of Chronic Diseases of the Heart. By W. Bezly Thorne, M.D., M.R.C.P. Second Edition. 1896. Price 5s.
The Theory and Practice of Hygiene. By J. Lane Notter, M.A., M.D. Dubl., and R. H. Firth, F.R.C.S. 1896. Price 24s.

DOWNEY AND CO., York-street, Covent-garden, London, W.C.
The New Photography. By A. B. Chatwood. Illustrated. 1896. Price 1s.

GIORNALE MEDICO DEL REGIO ESERCITO, Roma.
Antropometria Militare. Parte I., Dati Antropologici ed Etnologici. 1896. Dr. Ridolfo Livi. Parte I., Dati Antropologici ed Etnologici: Atlante della Geografia Antropologica d'Italia.

GREVEL, H., AND CO., King-street, Covent-garden, London, W.C.
My Will: a Legacy to the Healthy and Sick. By Sebastian Kneipp. Translated from the Ninth German Edition. Illustrated. 1896.

LEWIS, H. K., Gower-street, London, W.C.
The Principles of Bacteriology. By A. C. Abbott, M.D. Third Edition. Illustrated. 1896. Price 12s. 6d. nett.

SAMPSON, LOW, MARSTON, AND COMPANY, Fetter-lane, Fleet-street, London.
Twentieth Century Practice. An International Encyclopædia of Modern Medical Science. Edited by Thos. L. Stedman. In twenty volumes. Vol. IV. 1896.

SMITH, ELDER, AND CO., Waterloo-place, London.
Hypnotism, Mesmerism, and the New Witchcraft. By Ernest Hart. A New Edition. Illustrated. 1896. Price 5s.

SPON, E. & F. N., Strand, London; W.C.
Sewerage and Sewage Disposal. By Henry Robinson, M.Inst.C.E. 1896.

THE F. J. REBMAN COMPANY, London.
A Practical Treatise on Materia Medica and Therapeutics. By John V. Shoemaker, M.D., LL.D. Third Edition. 1895.

THE NEW SYDENHAM SOCIETY, London.
Lectures on Pharmacology. By C. Binz. Translated from the second German edition by A. C. Latham, M.A., M.B. Oxon. Vol. I. 1895.
The New Sydenham Society's Lexicon of Medicine and the Allied Sciences. (Based on Mayne's Lexicon). Part XXII. Pin—Puke, 1895.

THE REBMAN PUBLISHING COMPANY, Adam-street, Strand, London.
An American Text-book of Obstetrics. Edited by Richard C. Norris, M.D. Illustrated. Parts 1 and 2. 1896.

THE SCIENTIFIC PRESS, Strand, London.
Infant Feeding by Artificial Means. By S. H. Sadler. Second Edition. 1896. Price 5s.

List of the Fellows, Members, Extra-Licentiates and Licentiates of the Royal College of Physicians of London, and of Holders of the Diploma in Public Health, granted conjointly by the Royal Colleges of Physicians and Surgeons, 1896.—Transactions of the Obstetrical Society of London, vol. 37, for the year 1895; part 4 for October, November and December (published by the Society at 20, Hanover-square, London, W., 1896); price 10s.—Transactions of the Cremation Society of England, No. 9 (A. Bonner, Cook's-court, Cursitor-street, Chancery-lane, London). 1896. Price 6d.—Magazines, &c., for March: Strand Magazine, Strand Musical Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Chapman's Magazine, Pall Mall Magazine, Westminster Review, Fireside, Contemporary Review, Ludgate Monthly, Friendly Greetings.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

ABRAM, JOHN HILL, M.D. Lond., M.R.C.P., has been appointed Honorary Assistant Physician to the Liverpool Royal Infirmary.

BARNETT, L. E., M.B., Ch.M. Edin., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Dunedin Hospital, New Zealand.

BATCHELOR, F. C., M.D. Durh., L.R.C.P. Edin., M.R.C.S. Eng., has been appointed Gynæcologist to the Dunedin Hospital, New Zealand.

BENSON, THOS., L.R.C.P., L.M. Edin., M.R.C.S., has been appointed Medical Officer of Health by the Tanfield Urban District Council.

BERRY, WM., F.R.C.S. Irel., L.R.C.P., L.R.C.S. Edin., M.R.C.S., D.P.H. Glasg., has been appointed Medical Officer of Health for the Borough of Wigan.

BLAKE, W. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Eighth Sanitary District of the Bromley Union.

BLANCHARD, D. F., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Resident Medical Officer and Public Vaccinator at Beverley, Western Australia.

BROWN, WM., M.B., Ch.M. Edin., has been appointed Honorary Surgeon to the Dunedin Hospital, New Zealand.

CLARKE, J. M., M.D. Camb., M.R.C.P. Lond., M.R.C.S., has been appointed Professor of Pathology and Morbid Anatomy at the University College, Bristol.

CLOSS, J. O., M.B., Ch.M. Edin., has been appointed Honorary Surgeon to the Dunedin Hospital, New Zealand.

COLQUHOUN, D., M.D. Lond., M.R.C.P., M.R.C.S., has been appointed Honorary Physician to the Dunedin Hospital, New Zealand.

COOK, J. W., M.D. Aberd., M.R.C.S., has been appointed Medical Officer of Health by the Walton-on-the-Naze Urban District Council.

DAVIES, LEWIS G., B.A., M.B., B.C. Cantab., has been appointed Resident Medical Officer at the Cardiff Union.

EASTES, G. LESLIE, M.B., B.Sc. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Royal Hospital, Sheffield.

EDGEWORTH, F. H., M.B., B.S. Camb., has been appointed Lecturer on Practical Physiology and Histology at the University College, Bristol.

FERGUSON, H. L., L.K.Q.C.P. Irel., F.R.C.S., has been appointed Ophthalmic Surgeon to the Dunedin Hospital, New Zealand.

FIRTH, J. L., M.D. Lond., F.R.C.S., L.R.C.P., M.S., B.S., has been appointed Assistant Surgeon to the Bristol General Hospital.

FISHER, T., M.D. Lond., M.R.C.S., has been appointed Out-patient Physician to the Bristol Hospital for Women and Children.

FOREMAN, JOS., L.R.C.P., L.M. Edin. M.R.C.S. Eng., has been appointed Honorary Consulting Gynæcologist to the Prince Alfred Hospital, Sydney, New South Wales.

FRETHNEY, R. DR., has been appointed Medical Superintendent of the Toowoomba Hospital, Queensland.

GRIFFITH, W., M.B., C.M. Edin., has been appointed Medical Officer by the Milford Urban District Council, vice G. Griffith, resigned.

HANNAH, W. T. M.B., Ch.M. Glasg., D.P.H. Camb., has been appointed Medical Officer for the Buxton Sanitary District of the Chapel-en-le-Frith Union.

HASSELL, G., M.D., Ch.M. Aberd., has been appointed Medical Superintendent to the Mount View and Porirua Asylums, New Zealand.

HENRY, GORDON G. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Williton Rural Sanitary District.

HITCHINS, T. H., M.R.C.S., has been appointed Medical Officer of Health for Brailes, Chipping Camden, and Shipston-on-Stour, by the Rural District Councils.

HOLMES, L. S., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Surgeon-Lieutenant in the Launceston (Tasmania) Artillery.

JEFFCOAT, F. H., M.B., Ch.M. Edin., has been appointed Gynæcologist to the Dunedin Hospital, New Zealand.

JONES, EDWARD, M.R.C.S., L.R.C.P., has been appointed House Surgeon to Chichester Infirmary.

JONES, H. T., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Pembroke Union.

KENDALL, GEO., L.R.C.P. Lond., M.R.C.S., has been appointed Out-patient Surgeon to the Bristol Hospital for Women and Children.

KNIGHTS, JAS. W., has been appointed Analyst for the Borough of Cambridge.

LAMBERT, F. W., L.R.C.P., L.M. Edin., M.R.C.S., has been appointed Medical Officer of Health by the Farsley Urban District Council.

LANSDOWN, ROBERT G. POOLE, M.D., B.S. Dunedin, M.R.C.S., L.R.C.P., has been appointed Surgeon to the Bristol General Hospital, vice W. J. Penny, resigned.

LARKING, ARTHUR E., M.D. Durh., M.R.C.S. and L.S.A., has been appointed Medical Officer of Health for the parish of Chesham.

MACDONALD, J., L.R.C.P., L.M. Edin., L.R.C.S., M.R.C.S. Eng., has been appointed Medical Officer for Skin Diseases to the Dunedin Hospital, New Zealand.

MACK, H. H., L.R.C.P. Lond., has been appointed Medical Officer for the Third Sanitary District of the Ross Union.

MACKINTOSH, ANGUS, M.D., L.F.P.S. Glasg., has been reappointed Medical Officer of Health to the Chesterfield Rural District Council.

MACPHERSON, JAS., M.B., Ch.M. Edin., has been appointed Honorary Physician to the Dunedin Hospital, New Zealand.

MARWOOD, A. W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Health Officer for Corioshire, Victoria, Australia.

MOFFIT, J. R. J., L.K.Q.C.P., L.M., L.R.C.S. Irel., has been appointed Resident Medical Officer and Public Vaccinator for the Greenough District, Western Australia.

MORTON, C. A., F.R.C.S., L.R.C.P. Lond., has been appointed Out-patient Surgeon to the Bristol Hospital for Women and Children.

PENNY, W. J., F.R.C.S., L.R.C.P. Lond., has been appointed Consulting Surgeon to the Bristol General Hospital.

ROBERTS, E. J., M.B., Ch.B. Univ. New Zealand, has been appointed Honorary Physician to the Dunedin Hospital, New Zealand.

ROWLEY, CHAS., M.R.C.S. Eng., has been appointed an additional Public Vaccinator for the District of Auckland, New Zealand.

SWAYNE, WALTER C., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Lecturer on Practical Midwifery at the University College, Bristol.

TOWNEND, J. H., L.R.C.P. Edin., has been appointed Medical Officer to the Strathmore Hospital, Christchurch, New Zealand.

TREHARNE, J. LLEWELLYN, M.R.C.S., L.S.A., has been appointed Medical Officer at the Cardiff Prison, in succession to C. E. Hardyman, resigned.

TURNER, DUNCAN, L.R.C.P. Lond., L.R.C.S. Edin., has been appointed President of the Dental Board of Victoria, Australia.

WALKER, D., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Banghurst and Tadley Sanitary District of the Kingsclere Union.

WATERS, C. H., M.B., Ch.M. Edin., has been appointed Resident Medical Officer and Public Vaccinator for the Yilgarn District, Western Australia.

WATT, GEO., M.B., Ch.M. Aberd., D.P.H. Aberd., has been appointed Government Medical Officer and Vaccinator for Narrandera, New South Wales.

YOUNG, W. C., F.C.S., F.I.C., has been appointed Analyst by the Whitechapel Board of Works.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRISTOL GENERAL HOSPITAL.—House Surgeon for three years. Salary £120 per annum, board, residence, &c., provided in the house.

BURTON-ON-TRENT INFIRMARY.—House Surgeon. Salary £130 per annum, with prospective advantages, also coals and gas.

CHARING-CROSS HOSPITAL, London.—Assistant Surgeon.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W. — Resident Medical Officer for twelve months. Salary £60 per annum, with board, lodging, and washing. Also Clinical Assistantship, fee £5 5s., tenable for three months.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—House Physician for six months. Salary at the rate of £30 per annum, with board and residence.

CORNWALL COUNTY LUNATIC ASYLUM, Bodmin.—Junior Assistant Medical Officer. Salary £100 a year, increasing £10 yearly to £120 a year, with board, lodging, &c.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Clinical Assistant for six months. An honorarium of £10 after six months' satisfactory service will be given, and board, residence, and washing provided.

GENERAL HOSPITAL, Nottingham.—Assistant House Surgeon for six months. Board, lodging, and washing in the hospital provided. Also Assistant House Physician for six months. Board, lodging, and washing in the hospital provided.

METROPOLITAN DISPENSARY, Cripplegate, E.C.—Resident Medical Officer. Salary £175, with furnished residence, and an allowance for coals and gas.

NORTH SHIELDS AND TYNEMOUTH DISPENSARY, North Shields.—Non-resident House Surgeon and Dispenser. Salary £140 per annum.

ROYAL HOSPITAL FOR SICK CHILDREN, Glasgow.—Assistant House Surgeon. Salary £30, with board and washing.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Assistant House Surgeon. Board, residence, and laundry provided.

SUNDERLAND AND NORTH DURHAM EYE INFIRMARY, Sunderland.—House Surgeon. Salary at the rate of £80 a year, out-door, rising to £90 after six months.

THE GENERAL INFIRMARY, Leeds.—Resident Surgical Officer. Salary £100 per annum, with board, residence, and washing.

THE VICTORIA HOSPITAL FOR SICK CHILDREN, Queen's-road, Chelsea.—Second Honorary Anæsthetist, for one year.

VICTORIA HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Edinburgh.—Resident Physician for six months. Board and lodging are provided and an allowance is made for conveyance at the rate of £24 per annum. Also Non-resident Medical Officer for six months, for out-patients. Salary at the rate of £60 per annum.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Fourth Assistant Surgeon.

WEST RIDING ASYLUM, Wakefield.—Two Resident Clinical Assistants for six months. Board and furnished apartments provided.

WEST SUSSEX ASYLUM.—Medical Superintendent. Salary £450 a year, with unfurnished house (the committee paying rates and taxes), light, washing, coals and vegetables. Applications to the Clerk to the Committee, West Pallant, Chichester, Sussex.

Births, Marriages, and Deaths.

BIRTHS.

BAREFOOT.—On Feb. 26th, at Elm-grove, Southsea, the wife of Surgeon-Captain J. R. Barefoot, Army Medical Staff, of a daughter.

BOND.—On Feb. 26th, at Leyton, Essex, the wife of Mayston Bond, M.R.C.S., L.R.C.P., of a daughter.

DANNE.—On Feb. 23rd, at Cheltenham-road, Montpelier, Bristol, the wife of William Danne, B.A. Dub., L.R.C.P.E., L.R.C.S.I., of a daughter.

DAY.—On Feb. 26th, at Regency-square, Brighton, the wife of Surgeon-Capt. W. Bullen Day, of a son.

DOBIE.—On March 1st, at St. John-street, Chester, the wife of Herbert Dobie, M.D. Edin., of a son.

DOVE.—At Stanwix, Carlisle, on March 3rd, the wife of R. Atkinson Dove, M.B., L.R.C.S. Edin., Brigg, Lincolnshire, of a daughter.

ECCLES.—On Feb. 29th, at Harley-street, W., the wife of W. McAdam Eccles, M.S., F.R.C.S., of a son.

TAYLOR.—On Feb. 25th, at Thruxton, near Andover, the wife of James Taylor, M.D. Irel., of a daughter.

WOULFE FLANAGAN.—On Feb. 28th, at St. Leonard's-terrace, Chelsea, S.W., the wife of Terence Woulfe Flanagan, M.B. Dubl., of a daughter.

MARRIAGES.

BIDDLECOMBE—WOOD.—On Feb. 15th, at St. Margaret's, Westminster, Edward Henry Biddlecombe, M.B., M.R.C.P. Lond., son of D. E. Biddlecombe, North Allington, Bridport, to Rosalind Lawrence, daughter of the late Bennett Wood, of Bath.

WILLEY—PERRY.—On Feb. 27th, at Christ Church, Sneyd-park, near Bristol, Frederick J. Ingor Willey, M.B., B.S. Durh., M.R.C.S., Crouch-end, London, N., to Florence Elizabeth Perry, B.Sc. Lond., second daughter of Benj. Perry, Avonleigh, Stoke Bishop, near Bristol.

DEATHS.

ANDERSON.—On Feb. 24th, at 68, Talbot-road, Bayswater, W., of acute pleuro-pneumonia, A. F. Anderson, M.D., formerly Colonial Surgeon, Straits Settlements.

ANDERSON.—On Feb. 29th, at South Tay-street, Dundee, Alex. M. Anderson, M.D. Glasg., late Medical Officer of Health for the city of Dundee, aged 52 years.

BUDD.—On Feb. 28th, at Barnstaple, Richard Budd, M.D. Edin., in his 87th year.

ROBERTS.—On Feb. 29th, at Redcliffe-square, S.W., Hubert William Roberts, M.R.C.S.

THOMPSON.—On Feb. 25th, at Pengam, near Cardiff, Thomas William Thompson, L.R.C.P. Edin., D.P.H., M.R.C.S. Eng., of Elmfield, Potter's Bar, and Medical Inspector of H.M.'s Local Government Board, late Surgeon 1st Life Guards, aged 44.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St Thomas's (3.30 P.M.), St. George's (1 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.).

TUESDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (11th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.).

THURSDAY (12th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Great Northern Central (Gynæcological, 2.30 P.M.).

FRIDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.), Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.).

SATURDAY (14th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (10th).—SOCIETY OF ARTS.—8 P.M. Mr. J. Pennell: English Book Illustration, 1860-70.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-sq., W.).—Mr. Mayo Robson: Excision of a Portion of Liver for Tumour.—Mr. C. A. Ballance: A Case of Neoplasm Cyst of the Brain treated by Operation.

WEDNESDAY (11th).—LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Report of the Morbid Growths Committee on the Specimen of Fibroma (? Fibro-sarcoma) shown by Dr. St. Clair Thomson. Adjourned Discussion on Foreign Bodies in the Upper Air and Food Passages, introduced by Mr. C. Symonds. Cases and Specimens:—Dr. C. Beale: (1) Cyst between Tongue and Epiglottis; (2) Case of (?) Cancer or Tubercle.—Dr. Bond: (1) Maggots in the Nose; (2) Myxoma of the Vocal Cord.—Mr. E. C. Stabb: (1) Lupus of Palate and Larynx; (2) Tumour of Soft Palate.—Dr. St. Clair Thomson: Myxoma of Vocal Cord.

SOCIETY OF ARTS.—8 P.M. Prof. A. C. Haddon: Peasant Life and Industries in Ireland.

SOUTH-WEST LONDON MEDICAL SOCIETY (Stanley's, 235, Lavender-hill).—8.30 P.M. Mr. Biggs: Puerperal Fever (so-called) with Cases.

HUNTERIAN SOCIETY.—Pathological Evening. Dr. Glover Lyon: (1) Aneurysm of Aorta; (2) Fœtus one inch long.—Dr. A. Chaplin: A Heart with Congenital Disease of its Valves.—Mr. H. H. Tubby: Specimens of Scurvy-Rickets.—Dr. J. H. Sequeira: Intra-abdominal Band of Unusual Length, and Normal Organs Hardened in situ by Injections of Formalin.—Dr. F. J. Smith: Epithelioma of Epiglottis. Specimens: Mr. Targett.

THURSDAY (12th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-st., Cavendish-sq., W.).—8 P.M. Card Specimens:—Mr. S. Stephenson: Unusual Arrangement of Retinal Vessels.—Mr. W. G. Laws: Case of Retinitis Circinata.—Mr. E. Clarke: Specimens of Detachment of the Retina, and Sarcoma of the Choroid.—Mr. Doyne: (1) Peculiar Condition of Retina; (2) Ossification of Choroid, &c. 8.30 P.M. Papers: Mr. K. Scott: Keratitis occurring in Leprosy.—Dr. Ormerod and Mr. H. Spicer: Recurrent Paralysis of Third Nerve in Migraine.—Mr. Rockliffe: (1) Case of Leuco-sarcoma of Choroid; (2) Cataract Extraction and Gout.—Mr. R. L. Knaggs: Recurrent Reflex Amblyopia due to Pregnancy.

BRITISH GYNÆCOLOGICAL SOCIETY.—Specimens:—Dr. Purcell: Three Uteri removed by Vaginal Hysterectomy for Malignant Disease.—Dr. Schacht: Unsuccessful Tubal Gestation containing Fœtus. A Discussion on Ventro-fixation, Ventro-suspension, and Allied Operations, with their Results, will be introduced by Mr. M. Robson.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY (Great Northern Central Hospital, Holloway).—9 P.M. Papers:—Dr. R. W. Burnet: Acute Rheumatism, followed by Delirium.—Mr. C. B. Lockwood: The Diagnosis and Treatment of Septic Peritonitis (illustrated by the lantern).

FRIDAY (13th).—CLINICAL SOCIETY OF LONDON.—Mr. G. Bird: A Case of Lymph Scrotum and Lymph Varix.—Dr. Coleman and Mr. Ballance: A Case of Subcortical Tumour of the Brain treated by Operation.—Dr. F. L. Benham: A Case of Hemorrhage into the Pons Varolii; Venesection; Recovery.—Dr. F. J. Smith and Mr. Bidwell: A Case of Tubercular Kidney.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (9th).—LONDON POST-GRADUATE COURSE.—Roy. Lond. Ophthalmic Hospital, Moorfields, 1 P.M., Mr. R. M. Gunn: Affections of Cornea.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Mr. G. C. Wilkin: Aural Polypi.

TUESDAY (10th).—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: General Paralysis.

ROYAL INSTITUTION.—3 P.M. Prof. Charles Stewart: The External Covering of Plants and Animals: its Structure and Functions.

WEDNESDAY (11th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3 P.M. Lecture by Dr. Gowers.

HOSPITAL FOR CONSUMPTION, &c. (Brompton).—4 P.M. Dr. Fowler: Pulmonary Syphilis.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—5 P.M. Dr. Morgan Dockrell: Erythemata.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. Swinford Edwards: Demonstration of the Cystoscope.

LONDON POST-GRADUATE COURSE.—Roy. Lond. Ophthalmic Hospital, Moorfields, 8 P.M., Mr. A. S. Morton: Optic Neuritis.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Payne: Pruritus and Prurigo.

THURSDAY (12th).—ROYAL INSTITUTION.—3 P.M. Rev. W. Barry: Masters of Modern Thought—Rousseau.

LONDON POST-GRADUATE COURSE.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Mr. R. Barwell: Clinical Lecture.—Brit. Inst. of Preventive Medicine, Gt. Russell-st., W.C., 3.30 P.M. Dr. Allan Macfadyen and Mr. A. G. Foulerton: Detection of Pus, Mucus, Blood, and Bile in Urine.

FRIDAY (13th).—LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Typhoid Fever and Diphtheria.

ROYAL INSTITUTION.—9 P.M. Mr. W. S. Lilly: The Theory of the Ludicrous.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL.—Mr. Lennox Browne: Recent Clinical and Therapeutical Information concerning Acute Tonsilitis, Chronic Tonsilitis, Chancre of the Tonsil, &c.

SATURDAY (14th).—ROYAL INSTITUTION.—3 P.M. Lord Rayleigh: Light.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—5 P.M. Dr. Morgan Dockrell: Ulerythema.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index for the second half-yearly volume for 1895 was given in the issue of Dec. 28th. The practice of supplying loose copies has been discontinued, the Index having been placed in the centre of the journal, whence it can easily be detached, and placed either at the beginning or at the end of the volume.

RAILWAY VIBRATION AND OCULAR FATIGUE.

To the Editors of THE LANCET.

SIRS,—In an age which is essentially one of railway travel and in which so many of us spend an appreciable portion of each day in the train it is surely the duty of railway companies to see that our daily journey is made as little fatiguing and injurious to health as may be. On the majority of lines one may say that, thanks to competition, this duty is fairly well discharged, and that passengers, on that score at least, have little cause of complaint. But my attention has recently been directed to a source of discomfort and of possible injury both to eyesight and nervous system, which is to be found on some of the railways round the metropolis. Possibly my observation may not be entirely novel, but in the interests of the travelling public I venture to draw the attention of fellow practitioners to the subject, in the hope that some who may possess influence in railway quarters will use it to secure an improvement. It is a well-known fact that many persons are subject to nervous headache and ocular fatigue after a railway journey, which in not a few cases even induces sickness. These symptoms are partly due to the rapid flight of objects across the field of vision, causing constant action of the orbital muscles. Recent observations have led me to infer that possibly vibration and jar may play an important part in the causation of discomfort. Travelling a good many times on a certain main line I noticed that in some carriages the passengers never seemed for a moment to sit still, but

were all continually jerking in various directions whenever the train was running, and the higher the speed the greater seemed the motion of the passengers. The movement was not a rhythmical oscillation, but a series of rapid shakings in every direction. In other carriages this jerking movement was hardly, if at all, perceptible. The carriages being of identical construction I turned my attention to the seats, and found that in the carriages where the jerking movement occurred the cushion was placed on a woven wire fabric suspended on a wooden frame extending across the carriage. In the carriages where least vibration existed the springs were of the ordinary spiral description. It is obvious even to a non-mechanical observer that in the first case the passengers are seated on a suspension spring, having a very short play and sharp, jerky movements of recoil, whereas in the older form of spiral compression springs the weight is carried on a system of springs which take up most of the shock arising from inequalities of the road without transmitting it to the spine and brain of the traveller. In a daily journey of, say, an hour the number of unnecessary vibrations and repeated concussions inflicted on the travellers seated on these woven wire seats must be very injurious, especially so in the case of persons who make a practice of reading the paper on their way to business. I can imagine nothing more damaging than the endeavour to keep the eyes focussed on a sheet of small type which the jerky movements of the seat must keep constantly in rapid motion. Some time ago mention was made of the benefit resulting to ataxic patients from the oscillations of an express train. For this purpose, nothing can be better suited than the woven wire seats I have described. I trust, however, that for ordinary travellers you will grant space to my plea for the older form of seat.

I am, Sirs, yours faithfully,

March 3rd, 1896. ANTI-VIBRATION.

K. B. is informed that we must keep in this case to our invariable rule, which is never to recommend individual practitioners or any course of treatment.

A CHINESE DOCTOR'S TREATMENT OF RHEUMATISM.

MR. W. E. FALKS writes to the *Manchester City News*:—

"When I was acting American Consul at Amoy one of my employés fell sick with a severe attack of rheumatism. He stood the pain bravely for three days, refusing all 'foreign devil medicine,' and on the fourth sent for a native physician. The latter duly arrived, and began preparations for treatment of the malady, which he announced to be due to the presence of a 'darting snake' in the sufferer's body. Incense-sticks were lighted and placed just outside the door, and also in the room. A pack of fire-crackers was set off and a talismanic paper pasted to the wall. This was done to drive away evil spirits and attract good ones. The doctor next wrote a lot of characters on a thick piece of paper with a vermilion pencil and set fire to it. It burned into a black ash, which was broken into a cup of water and drunk by the patient. A great bowl of herb tea was made, of which a cup an hour was the allotted dose. The son of Æsculapius next bared the body of my servant, and drove deep down into it at nine points a long needle moistened with peppermint. He did it with such skill in avoiding large bloodvessels that the hæmorrhage was insignificant. He then covered each puncture with a brownish paste, and this, in turn, with a piece of dark paper. He then collected his fee, fifty cents, and departed. The sufferer soon fell into a sleep and the next day announced that his pains had departed. He remained in his bunk two more days, laughing, chatting, smoking cigarettes, and once or twice using the opium pipe, and then reported as being well. He left the paste and paper in place until they fell off. The skin was smooth and the scar hardly perceptible. He took his recovery as a matter of course, his only comment being that the darting snake was thoroughly dead."

SECTION CUTTING.

Mr. S. S. Larcombe.—"Elements of Practical Histology," by Weichselbaum, translated by Dr. W. R. Dawson (Longmans, 1896), should meet our correspondent's requirements.

"ADVERTISEMENT."

To the Editors of THE LANCET.

SIRS,—I beg to enclose for your inspection a begging circular from St. Peter's Hospital which has been sent to me in common with, I suppose, thousands of other householders. Upon it are printed the names of members of the staff, together with their surgical qualifications and their private addresses. The fact of the addresses of the other members of the committee being also printed does not, to my thinking, make the plan any the less distasteful. A medical friend tells me that before this hospital was removed to Covent Garden the private addresses of the members of the staff were boldly painted on a black board just inside the doorway, so that, as my friend said, the man in the street might put his head in and find where to go for relief. He did not know whether the same arrangement obtained in the new hospital. I hope not. Certainly in the general hospital in which I happen to be interested no such advertisements would ever be tolerated by either the medical or the lay members of the committee of management.

I am, Sirs, yours obediently,

March 2nd, 1896. NON-SUBSCRIBER.

WHITE BREAD OR BROWN BREAD?

THE quality of the flour from which bread should be manufactured has been the subject of considerable discussion lately, not only in this country, but also in France and on the continent generally. In a recent number of the *Revue d'Hygiène* Dr. Vallin has an article in which he deals with the matter at length and in great detail. Although far from being a partisan of very white bread, which he believes to be less nutritious than the brown variety, the author is still less an advocate for *pain complet*, that is, bread made with flour from which nothing but the outer husk of the grain has been removed. Bread thus manufactured he regards as decidedly unwholesome, on account of the large amount of indigestible bran it contains. In small quantities it may possibly be useful as a stimulant to people whose intestinal functions are sluggishly performed, its effects in such cases being similar to those of mustard, but if employed exclusively it is likely to set up gastric irritability and catarrh. The conclusions which Dr. Vallin finally arrives at are thus shortly stated. White bread may be recommended to gourmets and such as live on the fat of the land; home-made bread to working men, soldiers, growing youths of both sexes, and pregnant women; *pain complet* is only fit for dogs, or occasionally as a remedy in constipation. Generally speaking, these conclusions are sound enough, but it must not be forgotten that the wheats of different countries vary considerably *inter se*, and are by no means all equally digestible when made into flour. In some grains it is necessary to remove the whole of the envelopes, while in others slight decortication suffices.

MEDICAL ATTENDANCE UPON ACCIDENTS.

To the Editors of THE LANCET.

SIRS,—On the night of Feb. 27th a commercial traveller was thrown from his trap and received a dislocation at the shoulder and also concussion of the brain. The accident occurring near A.'s residence someone went for him, but found that he was away from home. They then telegraphed for B., who resides at a distance of two miles. In the meantime the policeman went for C., who accompanied him to the hotel and found the patient as stated above. C. reduced the dislocation and attended to his comfort till a bed was made ready. At this point A. came in and looked at the patient and C. told him what was wrong. B., having then driven up, A. (who is very friendly with B.) went out and had a chat with him. C. was then asked to go out and consult with A. and B. after they had looked at the patient. A. then told C. that the case was his (A.'s) as he was sent for first, and that C. had only done what any medical man would do for another. B. declined to say very much. C. said he thought that the case properly belonged to him as he personally knew the patient, but if A. thought he (A.) was legally entitled to the case C. would give it up in his favour. A. then told the landlady of the hotel that he would take charge of the patient and would see him later, and he has seen him since. A. has had a consultation with the patient's family attendant from a distance. Is C. entitled to a fee, and, what fee is reasonable? Who was really entitled to attend the case afterwards? In cases of severe accident is the medical man who attends to the injuries or the one who is first sent for legally entitled to the case?

I am, Sirs, yours faithfully,

Feb. 28th, 1896. LEX.

*** In cases of accident half-a-dozen medical men may be sent for, but the case fairly becomes the charge of the one who arrives first, where, as here, none of the three gentlemen concerned was the family attendant of the patient. It is the business of the police to find prompt medical help. The attendances of A. and B. deserve recognition from the patient.—ED. L.

INSURANCE AGAINST SICKNESS OR ACCIDENT.

To the Editors of THE LANCET.

SIRS,—Will you please inform me of the address of an insurance society for medical men in case of sickness or accident?

I am, Sirs, yours truly,

March 2nd, 1896. G. N. T.

*** The Sickness and Accident Assurance Association, Limited, of 64, Moorgate-street, E.C., offers insurance of the kind indicated by its title to professional men, and the Medical Sickness Annuity and Life Assurance Society, of 33, Chancery-lane, E.C., covers the sickness risk. But we are not able to decide upon the comparative merits or competing claims of these two societies.—ED. L.

MEDICAL MEN AND THE INTERVIEWER.

WE have several press extracts before us showing the danger to medical men of the interviewer when he comes in "such a questionable shape." Some are from New South Wales, and one is from "gallant little Wales" itself. The recent discoveries of science and of medical science lend themselves to the uses of the interviewer. But it is for the scientific man to guard himself against his approaches. The new photography is now at the service of all surgeons as much as iodoform or carbolic acid, but to allow the use of it to be the occasion of an article in a paper or an interview setting the surgeon up as a prodigy of prescience and skill is bad form. We withhold names this time.

THE SULBY DROWNING CASE.

Dr. Pinder.—Our correspondent must be guided by his lawyer in regard to any action against the *Ramsey Weekly News*. But we have no hesitation in expressing our opinion that, on the evidence as given in detail in the *Ramsey Courier*, the comments of the *Ramsey News* are completely unjustified. It has been assumed that Dr. Pinder promised a cure, which Dr. Pinder emphatically denies having done; and he seems to assume, further, that the return of the disease was known to be a certainty by the operator, which is not warranted by any facts. If our contemporary's argument against Dr. Pinder is well founded every operation for the removal of cancer is unjustifiable. Ours is a hard profession; we are left to do battle with otherwise hopeless cases and are liable to blame if we fail. It is not difficult to conceive a morbid depression in a patient who had suffered from a recurrence of disease of so painful a character enough even to lead to fatal steps; but it is beyond all fair criticism to blame a medical man who did the best that surgery could do for his patient, and whose charges for what he did were perfectly reasonable and according to his own contract.

A PROPHECY OF THE NEW PHOTOGRAPHY.

A LETTER in the *Dundee Advertiser* points out that the late Dr. Andrew Blair, a medical man, a native of Dunfermline, latterly resident in Tayport, and well-known in Dundee, in a work issued anonymously and published in three volumes in 1874 by Samuel Tinsley, London, foreshadowed the discovery of the Roentgen rays. The work is entitled, "Annals of the Twenty-ninth Century; or, the Autobiography of the Tenth President of the World-Republic." The realisation in less than a quarter of a century of a scientific achievement deemed sufficiently wonderful to warrant in the forecast its postponement for ten centuries is a remarkable tribute to the inventive ingenuity of the age in which we live. The passage referred to will be found at page 105 of Vol. III. and is as follows:—

> "I perceived the Secundines could not only make glass and stones and all inorganic substances malleable, but possessed a power undreamed of by man of making them transparent. ..... I was shown animals, upon which the youths were taught zoology and comparative anatomy, in some of which the skin was like a glass case, showing beneath the working of the muscles; in others the skin and muscles were pellucid, showing the circulatory system; in others all was perspicuous save the bones, with the view of their being subservient to the study of osteology; while in others still the whole body was vitreous."

The development of Professor Roentgen's discovery reported from Italy, whereby the eye is to see straight through the ordinarily opaque tissue, is no more wonderful than Dr. Blair's wild fancy that the opaque tissues should themselves become transparent to the ordinary limited eye.

THE ADVERTISEMENT OF MEDICAL BOOKS IN THE LAY PRESS.

A CORRESPONDENT has enclosed to us the following advertisement, upon the publication of which in the lay press he desires an expression of opinion:—

> STERILITY IN WOMEN: ITS CAUSES AND CURATIVE TREATMENT. By J. B. RYLEY, M.D., M.R.C.S., London. An Illustrated Edition of this work is now ready. Price 3s. 6d.; post free 3s. 8d.—London: Henry Renshaw, 356, Strand.

We are decidedly of opinion that such an advertisement should not appear in the lay press.

"THE PULSE-GLASS."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 22nd one of your correspondents asks for further information anent the pulse-glass. Some of these "toys" contain plain or coloured alcohol, others ether or, perhaps, water, where the supernatant vapour is expelled by boiling and the opening hermetically sealed by a blowpipe. By grasping one of the bulbs the hand's heat causes the distension of the enclosed vapour, which bubbles through and pushes or "pulses" the fluids into the opposite end. Doubtless the name of pulse-glass alludes to the driving and oscillation or alternate expansion and contraction thus produced, which, of course, has nothing to do with the physiological pulse as the beating of an artery. The old meaning of the word "to pulse" was "to drive"; thus, Smith on "Old Age" (1665) states that "the blood must therefore be brought into the left ventricle of the heart, whence it is *pulsed* into the aorta." (See Dr. Samuel Johnson's "English Dictionary," 1818, in four volumes.) Therefore, probably the pulse-glass originally meant a driving-glass. I am, Sirs, your truly,

Brighton, Feb. 22nd, 1896. J. LAWRENCE HAMILTON, M.R.C.S. Eng.

To the Editors of THE LANCET.

SIRS,—Your correspondent, "A Medical Man," will find pulse glasses figured and priced in most of the large surgical instrument catalogues; I find one in Arnold's list for last year. These, of course, are sand glasses for timing the pulse-rate. In the toy shops he will find, under various fanciful names, a glass tube such as he describes, with a bulb at one end partly filled with coloured fluid; when the bulb is held in the hand the fluid passes into a state of ebullition, presumably from the low boiling point of the liquid or because a partial vacuum was produced in the tube before sealing. I am, Sirs, yours faithfully,

Harrow-on-the-Hill, Jan. 24th, 1896. F. HYDE MAEERLY, M.D. Dub.

To the Editors of THE LANCET.

SIRS,—This is a piece of apparatus to illustrate the law of ebullition—viz., that a liquid boils when the vapour arising from it balances the pressure of the air upon it. It consists of coloured alcohol in a tube, with a bulb at each end. The bulbs are vacuous, and the heat of the hand is sufficient to make the alcohol boil. It is not, and never has been, used as a pulse gauge of any sort whatever.

I am, Sirs, yours truly,

J. L. KERR, M.D. Aberd., F.R.S. Edin.

Crawshawbooth, Manchester, Feb. 26th, 1896.

AN ODD LOCUM TENENS.

THE following extract, says *La France Médicale*, is taken from the "Memoirs of Marshall Castellane":—

> "The Marchioness of Talarn is over fifty, but she believes it is absolutely necessary for the good of her health that she should have a man beside her at night. Whenever M. de Talarn is absent she consequently makes her people sew up M. de Courtivron, one of his relatives, or else M. de Chavagnac, one of his friends, in a sack, and has him put into her bed. In the morning she is careful to summon her attendants, or, at all events, the chambermaid, in order that they may testify that the sack has not been unsewn. At present MM. de Chavagnac and de Courtivron both happen to be away at Madrid, attached to the embassy of M. de Talarn, so it is M. Boirot, physician of the Néris hydropathic establishment, who for the moment occupies the post of honour. I can assure you that this is in no wise a jest. My secretary is connected with the doctor, who, positively, is shut up in the sack every night."

Mr. G. M. C. Lowe.—Our correspondent does not give us much information, but even with full details no very definite answer could be given. A vitiated atmosphere is very bad for anyone to sleep in, but the extent to which it would be vitiated by the proceedings described might be *nil*. Again, a subject with "a weak chest" might be more readily distressed than a perfectly sound person, but as to exactly what "a weak chest" is we do not take on ourselves to guess. We would suggest that the lad should describe to his family medical attendant exactly what happens, have himself physically examined, and take the consequent advice.

A Medical Man.—Such conduct is within the bounds of the law, but it is not to be approved.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 5th, 1896.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Feb. 28	30·12	WNW	49	48	75	56	37	...	Raining
,, 29	30·13	S.W.	47	46	60	55	46	0·01	Raining
Mar. 1	29·79	S.W.	52	50	60	54	46	0·04	Raining
,, 2	29·53	N.W.	41	39	79	51	39	0·06	Fine
,, 3	28·86	S.W.	47	46	67	50	40	0·20	Stormy
,, 4	28·83	S.W.	40	38	63	48	36	0·07	Cloudy
,, 5	29·36	N.W.	44	41	79	49	37	0·19	Cloudy

During the week marked copies of the following newspapers have been received:—*Blackpool Times, Walsall Advertiser, Isle of Wight Observer, Manchester Guardian, Scotsman, Eastern Daily Press, Sheffield Independent, Liverpool Courier, Express Star (Wolverhampton), Leicester Daily Mercury, Birmingham Post, Grantham Journal, Western Morning News, North Middlesex Chronicle, Nottingham Guardian, Bedford Observer, Finchley Free Press, Wolverhampton Chronicle, Pullen's Kent Argus, Glasgow Herald, Bristol Mercury, Times of India, Pioneer Mail, Sussex Daily News, Builder, Freeman's Journal, Liverpool Daily Post, Architect, Brighton Gazette, City Press, Eccles Advertiser, Yorkshire Post, Medical Record (New York), Leeds Mercury, Citizen, Sanitary Record, Montreal Herald, Umpire, Glasgow Record, Surveyor, Cornish Post, Sydney Bulletin, Lincolnshire Echo, Hemel Hempstead Gazette, Local Government Chronicle, Weekly Free Press and Aberdeen Herald, Reading Mercury, Mining Journal, Hertfordshire Mercury, Daily Telegraph (Sydney), Northern Daily Mail, Northern Guardian, Gloucestershire Chronicle, Englishman (Calcutta), Surrey Advertiser, Kingston and Surbiton News, Local Government Journal, Lake's Falmouth Packet, Irish Ecclesiastical Gazette, Warehouseman, North British Advertiser, Chatham News, Royal Cornwall Gazette, Braintree and Bocking Advertiser, Huddersfield Examiner, Le Temps (Paris), Paddington and West London Mercury, Kingston and Surbiton News, Surrey Comet, &c. &c.*

Communications, Letters, &c., have been received from—

A.—Mr. R. B. Anderson, Lond.; Mr. H. W. Allingham, Lond.; Messrs. Arnold and Sons, Lond.; Anti-vibration, Lond.

B.—Dr. P. M. Braidwood, Amersham, Bucks; Dr. H. S. Bennett, Lond.; Dr. G. Buchanan, Lond.; Mr. C. Bell, New York; Mr. H. Bennett, Darlington; Mr. W. J. Bell, Queensland; Mr. P. T. Beale, Lond.; Mr. L. A. Bidwell, Lond.; Mr. J. J. B. Blackburn, St. Heliers, Jersey; Mr. G. R. Butler, Lond.; Mr. T. B. Browne, Lond.; Mr. F. Bauermeister, Lond.; Mr. B. Barrow, Ryde; Messrs. Brady and Martin, Newcastle-on-Tyne; Messrs. J. Bell and Co., Lond.; Messrs. Burroughs, Wellcome and Co., Lond.; Messrs. Burgoyne, Burbidges and Co., Lond.; Branch Medical Council, Dublin, Registrar of; British American Bail Nozzle Co.

C.—Dr. R. H. Coombs, Bedford; Mr. F. J. Carter, Taormina, Sicily; Mr. R. Cuffe, Woodhall Spa; Messrs. Cassell and Co., Lond.; Messrs. Clarke, Son and Platt, Lond.; City Hosp., Liverpool, Sec. of; Civil Rights Defence Committee, Lond., Sec. of; Central Lond. Throat, &c., Hosp., Sec. of; Chelsea Hosp. for Women, Sec. of; Cortland Wagon Co., Lond.; Co-operative Advertising Assn., Lond.; Crystal Palace Co., Lond., Manager of.

D.—Dr. C. Dukes, Rugby; Mr. A. Doran, Lond.; Dr. N. B. Darabseth, Bombay; Dr. D. S. Dowse, Lond.; Mr. L. Demetriadi, Huddersfield; Mr. V. De Brandt, Lond.; Mr. G. S. Davis, Detroit, Mich., U.S.A.; Mr. H. Dutch, Lond.; Derbyshire Roy. Infirmary, Sec. of.

E.—Messrs. Elder, Dempster and Co., Lond.; "El Ingeniero," Lond., Proprietors of.

F.—Dr. J. Findlay, Dumfries; Herr G. Fischer, Jena, Germany; Messrs. Fry and Sons, Bristol; Fly Fisher, Lond.

G.—Dr. L. G. Guthrie, Lond.; Dr. A. Gamgee, Lausanne, Switzerland; Dr. J. Galloway, Lond.; Mr. H. H. Gunnell, Otley; Mr. J. Galpin, Lond.; Mr. J. J. Griffiths, Lond.; Mr. R. A. Germaine, Lond.; Gt. Northern Central Hosp., Lond., Sec. of; Galignani Library, Paris; Gamma, Lond.; G. N. T.

H.—Dr. H. Hoole, Lond.; Mr. F. R. Humphreys, Lond.; Mr. J. Heywood, Manchester; Mr. J. H. Haywood, Nottingham; Miss Hooper, Lond.; Messrs. Harrington, Latham, and Co., Coventry; Hyde, Frodsham; H. S. G., Lond.

I.—Dr. J. M. Ismail, Basmora, Hyderabad; Messrs. Ingle and Co., Clapham.

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